2011 ISCVID

11th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Infections (2011 ISCVID Symposium)

24 – 26 July 2011, The Sebel Hotel, Cairns, Queensland, Australia

HANDBOOK AND CONFERENCE ABSTRACTS

SUPPORTED BY

ISCVID Support Grant

Pfizer Anti-Infectives

ISCVID Symposium Session Supporters and Scholarship Supporter

NOVARTIS
caring and curing

ISCVID Symposium Session Supporter

MSD

ISCVID Symposium Session Supporter

ST. JUDE MEDICAL
MORE CONTROL. LESS RISK.

ISCVID Symposium Supporter

gsk GlaxoSmithKline

ISCVID Invited Speaker Sponsor

Edwards

ashm
Supporting the HIV, Viral Hepatitis and Sexual Health Workforce

Published in 2011 by the Australasian Society for HIV Medicine Inc
ABN: 48264545457 CFN: 17788
 ISBN: 1 920773 27 4
National Office: Locked Mail Bag 5057 Darlinghurst NSW 1300
T 61 2 8204 0700 • F 61 2 9212 2382
Eashm@ashm.org.au • W www.ashm.org.au
Cover Design and Typesetting by: Australasian Society for HIV Medicine Inc
Printed by: Finelines Printing

11TH INTERNATIONAL SYMPOSIUM
ON MODERN CONCEPTS IN ENDOCARDITIS
AND CARDIOVASCULAR INFECTIONS

HANDBOOK AND CONFERENCE ABSTRACTS

ENVIRONMENT POLICY

The Symposium Secretariat implements a waste-reduction policy that addresses – Reduce, Reuse, Recycle. This is done before, during and after each conference.

The Symposium Secretariat reduces the number of printed materials by using electronic communication means wherever possible, including the website, email, online registration and abstract submission.

The Symposium Secretariat monitors final delegate numbers for an accurate forecast of catering requirements in order to avoid waste.

The Symposium Secretariat aims to research and prioritise purchasing items and equipment that support the use of recycled materials or can be recycled after use.

The Symposium Secretariat will aim to ensure that recycling bins are available onsite at all events.

The Symposium Secretariat will endeavour to minimise travel through the use of teleconferences instead of face-to-face meetings and holding meetings only when necessary.

The Symposium Secretariat encourages all conference stakeholders to consider the environment by suggesting the following: reduction in printing requirements; recycling conference materials; and reusing conference merchandise.

TABLE OF CONTENTS

WELCOME LETTER

Dear friends and colleagues,

Thankyou for joining us in Cairns, in tropical Queensland, Australia for the 11th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Infections (2011 ISCVID Symposium) to be held from Sunday 24 – Tuesday 26 July 2011. This meeting promises a combination of great science, an emphasis on multidisciplinary care for these complex conditions, in a relaxed and beautiful setting. The program is very broad with global representation and cutting edge updates in the evolving world of cardiovascular and device infections. For the first time we have a session dedicated to rheumatic heart disease still a major cause of valvular pathology around the world. It is an excellent opportunity for specialists from infectious diseases, cardiologists, microbiologists, pathologists, cardiac and vascular surgeons to collaborate on basic and clinical research.

Nestled on the coast of Far North Queensland, Cairns is tucked between the Great Barrier Reef in the Coral Sea and the lush rolling downs of the Atherton Tableland to the west. Cairns is renowned for its tourism attractions like the Great Barrier Reef, the Wet Tropics World Heritage rainforest and the Daintree.

There is something here for every visitor to enjoy … adrenaline-charged adventures, hiking, gourmet restaurants or just sitting under a palm tree sipping a cocktail. Cairns is the jewel in the crown of Australia's natural attractions. Please make the most of your stay here.

Associate Professor Eugene Athan
President for the ISCVID Symposium
Director, Department of Infectious Diseases
Barwon Health, Geelong, Australia

Background on the International Society of Cardiovascular Diseases

ISCVID is a society founded on the spontaneous and enthusiastic aggregation of physicians and scientists attending its meetings. The society requires no annual subscription by its members and receives its financial support from the registration fees of the attendees at its symposia and the generous contributions of the industries who support a fully independent scientific debate. Within ISCVID several large-scale scientific initiatives have been put forward. The most important is the International Collaboration on Endocarditis (ICE) that involves 64 centres in 28 countries around the world. ICE has set the strategy for studying several aspects of IE on a large scale basis and has generated a large amount of scientific data and publications.

NATIONAL PROGRAM COMMITTEE

Honorary president:

Adolf W. Karchmer, Boston, MA, USA

President:

Eugene Athan, Geelong, Australia

Organising Commmitee:

Eugene Athan, Geelong, Australia (Convenor)
John Amerena, Geelong, Australia
Alan Appelbe, Geelong, Australia
Stephen Chambers, Christchurch,New Zealand
Damon Eisen, Melbourne, Australia
Hwa-Wooi Gan, Singapore
Morteza Mohajeri, Geelong, Australia (Co-Convenor)
David Murdoch, Christchurch, New Zealand
Denis Spelman, Melbourne, Australia
Syahidah Syed Tamin, Malaysia
Ru-San Tan, Singapore

Scientific Committee:

Adolf W. Karchmer, Boston, MA, USA
G. Ralph Corey, Durham, NC, USA
Christopher H. Cabell, Durham, NC, USA
David Durack, Franklin Lakes, NJ, USA
Bruno Hoen, Besancon, France
Carlos Mestres, Barcelona, Spain
Josè Mirò, Barcelona, Spain
Philippe Moreillon, Lausanne, Switzerland
Christoph K. Naber, Essen, Germany
Ethan Rubinstein, Winnipeg, Canada
Jan T.M. van der Meer, Amsterdam, Netherlands
Walter R. Wilson, Rochester, MI, USA
Arnold S. Bayer, Torrance, CA, USA
Larry Baddour, Rochester, MI, USA
Giuseppe Cornaglia, Verona, Italy
Riccardo Utili, Napoli, Italy
Eugene Athan, Geelong, Australia

PROGRAM AT A GLANCE

PROGRAM AT A GLANCE

SUNDAY 24 JULY 2011		
8.30am	Registration open	Ground Floor Foyer
9.00am – 10.30am	ISCVID Council Meeting (council only)	Tully Room 3
10.30am – 11.00am	Poster Area Opening	Mossman Ballroom
11.00am – 12.30pm	ICE Investigator Meeting	Tully Room 3
12.30pm – 1.30pm	Lunch and Poster Viewing	Mossman Ballroom
1.30pm – 3.00pm	Opening and Future Directions for ICE Plus	Kuranda Ballroom
3.00pm – 3.30pm	Afternoon Tea in the Poster Area	Mossman Ballroom
3.30pm – 5.30pm	Epidemiology of IE	Kuranda Ballroom
5.30pm – 7.00pm	Welcome Reception	Pool Deck The Sebel Hotel

MONDAY 25 JULY 2011		
8.00am	Registration	Ground Floor Foyer
8.00am – 8.45am	Arrival coffee/tea in Poster Area	Mossman Ballroom
9.45am – 10.40am	Unusual Pathogens and Unusual Hosts *Sponsored by MSD*	Kuranda Ballroom
10.40am – 11.00am	Morning Tea in Poster Area	Mossman Ballroom
11.00am – 12.30pm	Staphylococcal Infections *Sponsored by Novartis Pharmaceuticals*	Kuranda Ballroom
12.30pm – 1.30pm	Lunch in Poster Area	Mossman Ballroom
1.30pm – 3.15pm	Cardiac Device infections, Vascular Prostheses & Mycotic Aneurysms *Sponsored by St Jude Medical*	Kuranda Ballroom
3.15pm – 3.45pm	Afternoon Tea in Poster Area	Mossman Ballroom
3.45pm – 5.45pm	Surgery and Update in Echocardiography	Kuranda Ballroom
7.00pm	Gala Dinner	Waterfront Terrace, Hilton Hotel, Cairns

TUESDAY 26 JULY 2011		
8.00am	Registration	Ground Floor Foyer
8.00am – 9.00am	Arrival coffee/tea in Poster Area	Mossman Ballroom
9.00am – 10.30am	Rheumatic Heart Disease: Update in Epidemiology, Pathogenesis and Public Health	Kuranda Ballroom
10.30am – 11.00am	Morning Tea in Poster Area	Mossman Ballroom
11.00am – 12.45pm	Prophylaxis Guidelines, Advanced Surgical Techniques and Closing	Kuranda Ballroom
12.45pm	Conference Closing Luncheon	Twin Peaks The Sebel Hotel

KEYNOTE SPEAKERS

KEYNOTE SPEAKERS

Dr Aristides de Alarcón
Infectious Diseases Specialist, Hospital Virgen Del Rocío, Spain

Dr Aristides de Alarcón is an infectious diseases specialist with particular interest in cardiovascular infections and zoonosis. He is member of the Andalusian Group for the Study of Cardiovascular Infections, the GAMES group and the Spanish Network for Investigation in Infectious Diseases. He has published many articles in endocarditis and also in diverse zoonosis (brucellosis, muryne typhus, Q fever) and is the coordinator of a large group of investigators in Coxiella burnetii endocarditis in Spain.

Associate Professor Eugene Athan
Director, Department of Infectious Diseases, Barwon Health, Geelong, Australia
Associate Professor of Medicine at Deakin University and University of Melbourne.
Head of the Geelong Endocarditis Service
Public Health Specialist for Medicin sans Frontieres

Research interests and well published in Endocarditis, Device infections, Mycobacteria ulcerans, Antimicrobial resistance, Influenza, Population Health and Health Economics.

Dr Darryl Burstow
Senior Staff Cardiologist and Clinical Director of Echocardiography, The Prince Charles Hospital, Brisbane and Associate Professor, Department of Medicine, University of Queensland, Australia

Dr Burstow is Senior Staff cardiologist and Clinical Director of Echocardiography at The Prince Charles Hospital (TPCH). He is also Associate Professor, Department of Medicine, University of Queensland and Adjunct Professor, School of Physical and Chemical Sciences, Queensland University of Technology.

Dr Burstow graduated MBBS from University of Queensland, undertook Physician training at Wellington Hospital, NZ before training in Cardiology at TPCH. He undertook Fellowship training in Echocardiography at Mayo Clinic, Rochester, USA before returning to Brisbane to begin Cardiology practice at the Wesley hospital and subsequently TPCH, becoming Clinical Director of Echocardiography in 1993.

Dr Burstow's research interests have focused on the Echocardiographic assessment of Prosthetic valve function, Diastolic function and Pericardial disease. He maintains a keen interest in Echocardiography education and has been involved in the development of post graduate courses in cardiac sonography with QUT and the annual Echo Australia meeting which is the largest educational echo meeting in Australia.

Professor Jonathan Carapetis
Director, Menzies School of Health Research, Northern Territory, Australia

Professor Jonathan Carapetis is Director of the Menzies School of Health Research in the Northern Territory. He is a paediatrician, infectious diseases and public health physician. His major interests are rheumatic fever and other group A streptococcal diseases, vaccine preventable diseases, Aboriginal child health and health in developing countries. More recently he has been exploring the importance of education as the major determinant of Aboriginal child health.

Professor Ralph Corey
Gary Hock Professor of Global Health, Director of Infectious Diseases Research, Duke Clinical Research Institute, North Carolina, USA

Dr. Corey has over 25 years of clinical research experience. For the past 10 years, as the Director of Infectious Diseases research at the Duke Clinical Research Institute, Dr. Corey has conducted large clinical trials involving skin and skin structure infections, hospital acquired pneumonia, post-surgical infections and

blood stream infection. His primary areas of interest include S.aureus infections and infective endocarditis and was the co-founder of the International Collaboration on Endocarditis. As a consequence Dr. Corey has published over 200 peer reviewed articles.

As the Gary Hock Distinguished Professor of Global Health, Dr. Corey is committed to global health issues and is actively involved in the creation of the Global Health Residency/Fellowship Program as well as clinical research in diseases of the developing world. Dr. Corey has created innovative training programs while serving as Program Director for the Internal Medicine Residency Training Program at Duke University Medical Center for the last 18 years.

Dr. Corey continues to be an active clinician both in the clinic and in the inpatient setting. He teaches and cares for general medicine patients as well as patients requiring infectious diseases expertise. Dr. Corey received his undergraduate degree in physics from Duke University and his medical degree from Baylor College of Medicine.

Professor Steve Chambers
Department of Pathology, University of Otago, Christchurch, Clinical Director, Department of Infectious diseases, Christchurch Hospital, Christchurch, New Zealand

Dr Chambers, graduated from the University of Otago Medical School in New Zealand before studying at the London School of Hygiene and Tropical Medicine in London and undertaking clinical training in infectious diseases at Northwick Park Hospital in London. He then did a fellowship in infectious disease at Ohio State University at Columbus and the University of Wisconsin in Madison before returning to New Zealand and setting up a new Infectious Disease Service in Christchurch, New Zealand. Major research interests have been hospital and community management of common bacterial infections including endocarditis, pneumonia, bone and joint infections, skin and soft tissue infections, fungal infections in the immune compromised host as well as novel diagnostic approaches such as breath analysis.

Dr Taweesak Chotivatanapong
Cardiothoracic Surgeon, Chest Disease Institute, Thailand

Dr. Taweesak Chotivatanapong was graduated from The Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Thailand. He completed his training in cardiothoracic surgery from Rajvithi Hospital and went on for his fellowship in cardiac surgery at Royal North Shore Hospital in Sydney, Australia.

His main interest during last 17 years is valve surgery including mitral valve repair especially in infective endocarditis and rheumatic valve. He pioneered in using autologous pericardial valved conduit for RVOT reconstruction in the Ross procedure in patients with aortic valve endocarditis in Thailand. He has been involved in valve repair workshop, lecture and live case demonstration in the Asia-Pacific region. Currently he is the head of the department of cardiothoracic surgery at Chest Disease Institute, Nonthaburi, Thailand.

Dr Taweesak Chotivatanapong is sponsored to attend by Edwards Lifesciences

Dr Vivian Chu
Assistant Professor of Medicine, Division of Infectious Diseases, Duke University Medical Center, Durham North Carolina, United States of America

Dr. Chu is an assistant professor in the Division of Infectious Diseases at Duke University Medical Center, Durham NC, U.S.A. Dr Chu received her medical degree from Columbia University, New

York; and completed her residency in Internal Medicine and a fellowship in Infectious Diseases at Duke University Medical Center. Dr. Chu's research focuses on coagulase-negative staphylococcal (CNS) infections. She is the co-director for the International Collaboration on Endocarditis (ICE). Dr. Chu is a recipient of the American Heart Association career development award, 2006.

Associate Professor Andrew Cochrane
Adult and Paediatric Cardiac Surgeon, Monash Medical Centre/ Southern Health, Melbourne, Australia

Andrew Cochrane is a cardiac surgeon, with 18 years of consultant experience in both adult and paediatric cardiac surgery. He undertook his advanced training at the Royal Melbourne Hospital, Alfred Hospital, Royal Children's Hospital, and in the United Kingdom. His initial consultant position was at Prince Charles Hospital in Brisbane for 2 years. He was a consultant cardiac surgeon at the Royal Children's Hospital from 1995 to 2008, and he has been a staff surgeon at Monash Medical Centre since 2003, where he is developing a new Adolescent & Adult Congenital Heart Surgery program, for patients who require either initial or on-going surgery of heart defects present since birth. However, he enjoys managing all aspects of adult and paediatric cardiac surgical care.

He is a co-author of more than 80 peer-reviewed journal articles, and an Editor of the journal Heart Lung & Circulation. He is an Associate Professor at Monash University, and has also done a Master of Public Health and Master of Epidemiology degrees. He is actively involved in many committees of the Royal Australasian College of Surgeons, and was Chair of the Victorian State Committee of the College for 2006-2008.

Andrew has been involved in many charitable cardiac teams over the last decade, with a total of 20 trips to diverse areas (Fiji, Vanuatu, PNG, Myanmar) including eight annual trips to East Timor since 2003. He has also established a philanthropic fund, the East Timor Support Fund, through the Royal Australasian College of Surgeons, to provide equipment and support for the Dili National Hospital.

Dr Toakase Fakakovikaetau
Paediatric Specialist, Community Health Project Coordinator, RHD Program Coordinator & Focal Point, Tonga

Graduate of Fiji School of Medicine in Fiji, Did a post graduate Diploma in Paediatric and Master in Community Paediatric in Unversity of New South Wales, Sydney while working as a Peaditric Registrar in Sydney Children. Worked as a Paediatrician in Tonga since 2000 and had been involved with RHD work in the country from 2003. I worked with the Ministry of Health for more than 20 years and with our program, we aim to eliminate the need for valvular heart surgery for RHD and consequently the incidence of ARF in our Island country. Through our work I won the Lone Heart Hero Award in 2008 and the NZ Prime Minister Coronation Fellowship award in 2009. Also passionate about other Child Health Strategy in particular the Immunization program and Child Health Indicators and targeting MDG for Tonga.

Recently, I took up the position to target Community approach to control of NCD in Tonga.

Professor Michael Good AO
NHMRC Australia Fellow, Griffith University, Queensland, Australia

Professor Michael Good is a National Health and Medical Research Council Australia (NHMRC) Fellow at Griffith University, the past Director of the Queensland Institute of Medical Research, a past President of the Association of Australian Medical Research Institutes, and a past Director of the Cooperative Research Centre for Vaccine Technology. In 2006 he was appointed as Chair of the National Health and Medical Research Council of Australia. In 2008 he was a Steering Committee member and Co-Chair of the "long-term national health strategy" of the 2020 Summit. Also in 2008 he was awarded an Officer of the Order of Australia (AO) for service to medical research and contributions to education. In 2009 he won the Australian Museum CSIRO Eureka Prize for Leadership in Science. In 2010 he was named a "Queensland Great" by the Queensland Premier. He graduated MD PhD DSc from the University of Queensland and the Walter and Eliza Hall Institute of Medical Research in Melbourne. He undertook postdoctoral training at the National Institutes of Health in Bethesda, Maryland before returning to Australia in 1988. His interests are in the field of immunity and immunopathogenesis to malaria and group A streptococcus/rheumatic fever, with particular relevance to the development of vaccines.

Dr Damien Holdaway
Consultant, Vascular Unit, Barwon Hospital and St John of God private Hospital, Geelong, Victoria

Dr Damien Holdaway studied medicine at the University of Melbourne before undertaking his fellowship in General surgery at the Alfred hospital in Melbourne; he worked for a year as a cardiothoracic fellow before undertaking a second fellowship in vascular surgery in Princess Alexandra Hospital Brisbane, Box Hill Melbourne and Prince of Wales in Sydney. His interest lies in Aortic, infrainguinal and carotid endovascular techniques and hybrid procedures. He has been working as a consultant in Geelong for seven years on the vascular unit of Barwon Health and the St John of God private hospital.

Professor Diana Lennon
Professor of Population of Children and Youth Health, Paediatrician in Infectious Disease, Starship Hospital, Auckland, New Zealand

Dr Diana Lennon is Professor of Population Health of Children and Youth and Paediatrician in Infectious Diseases at Starship Hospital Auckland. Her research interests are infectious diseases controllable by vaccine or other means. In New Zealand she has spear-headed Rheumatic Fever control and the meningococcal epidemic initiative and has ongoing projects in osteomyelitis, pneumonia, skin sepsis and other areas. Rheumatic Fever control in New Zealand is underway with a highly successful secondary prophylaxis programme and more recently an incremental primary prevention programme based on a school sore throat clinic model up and running in 6 sites with more planned. Peer-reviewed national guidelines sponsored by the National Heart Foundation of New Zealand and produced by a working group chaired by Professor Lennon on diagnosis of Rheumatic Fever, management of sore throats and primary prevention of Rheumatic Fever form the foundations of these initiatives. The role of echocardiographic screening of high risk pre adolescent populations is in evolution.

Dr Carlos Mestres
Senior Consultant, Department of Cardiovascular Surgery, Hospital Clinico,
University of Barcelona, Spain

Dr. Mestres MD, PhD, FETCS is a Senior Consultant at the Department of Cardiovascular Surgery, Hospital Clinico, University of Barcelona, Barcelona (Spain) and has over 25 years of experience in Cardiovascular and Thoracic Surgery. He has shown particular interest in inflammatory and infectious diseases of the cardiovascular system in addition to the regular practice in all areas of surgery. This includes infective endocarditis and primary and secondary vascular infections. He has been working in the field of homograft tissue for cardiovascular replacement and repair.

He is a member of the Hospital Clinico Endocarditis Working Group, the pioneer in cooperative work in the field in Spain, active for three decades. As a result of this effort, a number of studies and publications have been organized and produced over the years. Dr. Mestres has participated in the development of cardiovascular tissue banking in Spain, as the tissue bank at the Hospital Clinico was the first of its kind in the country. Long-term follow-up on patients treated with homologous tissues is nowadays available. Currently Dr. Mestres has over 180 publications peer-reviewed journals.

Dr. Mestres is an active surgeon both in the clinic and in the inpatient setting. He participates in teaching of surgical residents in the foundations of cardiovascular and thoracic surgery and has extensive experience in academic and scientific activities as Editor-in-Chief of the Spanish Journal of Cardiovascular Surgery and Associate Editor of the European Journal of Cardio-thoracic Surgery. Furthermore he is a reviewer and board member for major cardiovascular journals as The Journal of Thoracic and Cardiovascular Surgery, The Annals of Thoracic Surgery and Asian Cardiovascular and Thoracic Annals among others. Dr. Mestres received his medical degree from the University of Barcelona.

Associate Professor Julie Mundy
Director: Department of Cardiothoracic Surgery, Princess Alexandra Hospital, Woolloongabba, Queensland, Australia

Associate Professor Julie Mundy trained in general surgery at the Princess Alexandra Hospital followed by cardiothoracic surgery training in Sydney at St.Vincent's Hospital in adult cardiothoracic surgery and heart-lung transplantation. Further training was obtained in thoracic surgery at The Royal Prince Alfred Hospital and paediatric cardiac surgery at the Royal Children's Hospital at Camperdown. After completing her cardiothoracic surgical training in Australia and gaining some overseas experience in Glasgow, Assoc Prof Mundy returned to St.Vincent's Hospital, Sydney in 1993 as a surgeon with the Dept of Cardiothoracic Surgery and Cardio-pulmonary Transplantation. In 1999 she commenced as the Director of Cardiothoracic Surgery at the Princess Alexandra Hospital and established this new unit. She is actively involved with RACS activities as the Senior Examiner in the Fellowship exam and the Chair of the Surgical Sciences and Clinical exam committee. Her main interests are surgical education and heart failure surgery.

Associate Professor Wendy Munckhof
Senior Staff Specialist, Infectious Diseases & Microbiology and Associate Professor of Medicine, University of Queensland Faculty of Health Sciences, Princess Alexandra Hospital & District Health Service, Woolloongabba, Queensland, Australia

Wendy Munckhof is an infectious diseases physician and clinical microbiologist at Princess Alexandra Hospital in Brisbane. She is also Associate Professor of Medicine at the University of Queensland. She is a member of the Expert Writing Group for the current Australian antibiotic guidelines and recently updated the endocarditis chapter of these guidelines. In the past she has been secretary of the Australian Society for Antimicrobials and a Councillor of the Australasian Society for Infectious Diseases. She completed her PhD in 1998 entitled "The postantibiotic effect and its relevance to optimal antibiotic dosing". Her major current research interests are community-acquired MRSA infections and antimicrobial pharmacodynamics and she has more than 50 peer-reviewed research publications, predominantly in these areas.

Professor David Murdoch
Professor and Head of Pathology, University of Otago, Christchurch, New Zealand

David Murdoch MD, MSc, DTM&H, FRACP, FRCPA is Professor and Head of Pathology at the University of Otago, Christchurch and Clinical Microbiologist at Canterbury Health Laboratories, Christchurch, New Zealand. He is Infectious Diseases Editor for the Internal Medicine Journal, Editorial Consultant for The Lancet, is a member of the Pneumococcal Awareness Council of Experts, and Fellow of the Infectious Diseases Society of America. His research interests include pneumococcal disease, respiratory tract infections, respiratory viruses, legionella infection, bloodstream infections, endocarditis and rapid diagnostics. He is an International Collaboration on Endocarditis investigator.

Dr Barbara Murray
Chief of Infectious Diseases and co-director, Center for the Study of Emerging and Re-Emerging Pathogens, UTHSC-H, United States of America

Dr. Murray is Director of the Division of Infectious Diseases and co-director of the Center for the Study of Emerging and Re-Emerging Pathogens at UTHSC-H. She is an internationally recognized expert in infectious diseases and in antibiotic resistance and pathogenesis of enterococci; she conducts NIH-funded research, has been an editor of Antimicrobial Agents and Chemotherapy, program chair of ICAAC, Treasurer of IDSA, Chair of the NIH's Recombinant DNA Advisory Committee and has served on other NIH committees and Data Safety and Monitoring Boards, on many editorial boards, as well as on the FDA's Anti-Infectives Advisory Committee and on a number of Scientific Advisory Boards as a consultant to the pharmaceutical industry. She has published more than 200 peer-reviewed articles as well as many chapters and reviews and is frequently sought out for her clinical and research expertise.

Dr Graeme Nimmo
Director of Microbiology, Pathology Queensland, Australia

Professor Nimmo is State Director of Microbiology for Pathology Queensland and Professor in the School of Medicine at Griffith University. His research interests include healthcare-associated and community-associated MRSA, the epidemiology of antimicrobial resistant pathogens and molecular typing methods for healthcare-associated and community-associated pathogens. He is President of the Australian Society for Antimicrobials, Chair of the Australian Group for Antimicrobial Resistance, and a member of the National Pathology Accreditation Advisory Council. He serves on the editorial boards of Pathology and the European Journal of Clinical Microbiology and Infectious Diseases. He is a member of the Clinical Laboratory Standards Institute Working Group on Analysis and Presentation of Cumulative Antimicrobial Susceptibility Data and of the MRSA Working Group of the International Society for Chemotherapy. Prof. Nimmo was chair of the 13th International Symposium on Staphylococci and Staphylococcal Infection in Cairns in 2008.

Mr Peter Skillington
Cardiothoracic Surgeon, Deputy Director: Department of Cardiothoracic Surgery, Royal Melbourne Hospital, Melbourne, Australia

Mr. Skillington has been in specialist cardiothoracic surgery practice as a consultant since 1990. He has been the Deputy Director of the Department of Cardiothoracic Surgery at the Royal Melbourne Hospital since 1993. He also has appointments at the Epworth Private Hospital, Richmond, Melbourne, as well as the Melbourne Private Hospital, Parkville, Victoria. Peter's main interest areas are surgery for valvular heart disease, especially aortic valve replacement. He has pioneered the use of the Ross procedure for aortic valve replacement in Australia, now having performed close to 300 cases. He also has a special interest in surgery for adult congenital heart disease, as well as coronary artery bypass surgery.

After completing a Fellowship with the Royal Australasian College of Surgeons in both general and cardiothoracic surgery, completing in 1987, he then spent a year working as a Wessex Cardiothoracic Fellow at Southampton General Hospital, Southampton, UK, then six months at as a Cardiothoracic Surgery Fellow at the Brigham and Women's Hospital, Boston, USA, and six months as a Cardiac Surgery Fellow at the Children's Hospital, Boston, USA.

Associate Professor Denis Spelman
Head-Microbiology and Deputy Director-Infectious Diseases, The Alfred Hospital, Melbourne, Victoria, Australia

Denis Spelman is head of Microbiology and deputy director of the Infection Diseases at the Alfred Hospital in Melbourne. He has a particular interest in clinical infectious diseases, antibiotic resistant organisms and optimising student teaching.

Associate Professor Neil Strathmore
Cardiologist, Royal Melbourne Hospital, University of Melbourne, Australia

Dr Neil Strathmore was educated at the University of Melbourne and trained in Cardiology at the Royal Melbourne Hospital (RMH) and Massachusetts General Hospital. He is a Fellow of the Royal Australasian College of Physicians, the Cardiac Society of Australia and New Zealand (CSANZ) and the Heart Rhythm Society.

He is a Cardiologist at the RMH, an Associate Professor of the University of Melbourne, a member of the International Board of Heart Rhythm Examiners, Chairman of the CSANZ Lead Extraction Advisory Committee and a member of the Therapeutic Guidelines Expert Panel on Endocarditis Prophylaxis.

He has received several awards for his teaching, including an Australian Learning and Teaching Council Citation for Outstanding Contribution to Student Learning.

He has a wide experience in cardiac device implantation, follow-up and removal. He is the principal referral destination for device infections in the Australian states of Victoria and Tasmania (population 5.8 million).

Professor John Turnidge
Clinical Director, Microbiology and Infectious Diseases, SA Pathology, Australia

Professor Turnidge is Clinical Director of Microbiology and Infectious Diseases for SA Pathology, based at Women's and Children's Hospital in Adelaide. He is an Infectious Disease Physician and Microbiologist who has had a long career in Adelaide and Melbourne working with antibiotic resistance and appropriate antibiotic use. He is involved with many societies and committees both nationally and internationally dealing with issues of antibiotic resistance and their management. He was inaugural president of the Western Pacific Society of Chemotherapy, and co-founded the Australian Society for Antimicrobials. He was president of the 20th International Congress of Chemotherapy in Sydney in 1997. He has served on the scientific program committees of the Interscience Conference on Antimicrobial Agents and Chemotherapy, and the European Congress for Clinical Microbiology and Infectious Diseases. He is currently a voting member of the Antimicrobial Susceptibility Testing subcommittee of the Clinical and Laboratory Standards Institute.

Associate Professor Jan T.M. van der Meer
Department of Infectious Diseases, Universtiy of Amsterdam, the Netherlands

Jan T.M. van der Meer is an associate professor in internal medicine and infectious diseases at the Dept of Infectious Diseases of the Academic Medical Center, University of Amsterdam, the Netherlands. He is also a board registered epidemiologist. He was trained as an internist and infectious disease specialist at Leiden University Medical Center where he received his PhD in 1992 on the doctorate thesis 'Endocarditis prophylaxis: Fact or Fiction?" Part of his training as an epidemiologist was received in the U.S.A. (Tufts University, Boston MA, and University of Michigan, Ann Arbor MI). He is the (co-)author of several publications in international peer-reviewed journals about a.o. endocarditis and prophylaxis for endocarditis. Since 2001 he is chairman of the committee for endocarditis prophylaxis of the Netherlands Heart Foundation. He supervised the Dutch guidelines for the diagnosis and treatment of endocarditis.

Dr Anna Walduck
Senior Research Fellow, Department of Microbiology and Immunology, University of Melbourne, Australia

Anna Walduck is a senior research fellow in the Department of Microbiology and Immunology at the University of Melbourne. Her main research interests are the pathogenesis of bacterial infections, inflammatory responses in sepsis models, and the effects of NSAIDs on inflammatory signalling.

After completing a Bachelor of Science and PhD at the University of Queensland in 1995, Anna worked in veterinary vaccine R&D in the UK before returning Australia and the QIMR in 1997. At QIMR she worked on pre clinical trials of a malaria vaccine in collaboration with the CDC, Atlanta. In 1999 she took up a Max-Planck fellowship and moved to the MPI for Infection Biology in Berlin, Germany. Here she trained in immunology, molecular biology and genomics approaches and headed a team studying pathogenesis of Helicobacter pylori infections. Since 2005 Anna has been based in Melbourne. Her research is funded by the National Health Medical Research Council.

Associate Professor Darren Walters
Interventional Cardiologist, Clinical Director Cardiac Catheterization & Director of Cardiology, The Prince Charles Hospital, Chermside, Queensland, Australia

A/ Professor Darren Walters (Interventional Cardiologist 2002-2010 and Director of Cardiology 2005-2010, The Prince Charles Hospital) was trained at The Prince Charles Hospital and then as a Clinical and Research Fellow in Interventional Cardiology at Massachusetts General Hospital, Harvard Medical School, Boston 2000-2001. He has a Masters of Philosophy thesis (UQ) in "Optimal Anticoagulation during Coronary Intervention" and a Graduate Certificate in Health Management (QUT).

He is an Associate Professor of Medicine at the University of Queensland. He is Chair of the Central Area Cardiac Network and the immediate past Chair of the Interventional Working Group of the Cardiac Society of Australia and New Zealand and the Cardiac Society representative to the Australian Resuscitation Council. He is a member of the ILCOR task force on ACS-myocardial infarction.

He is involved in International prospective randomised trials and investigator driven translational research and is the author of more than 50 peer reviewed papers and 100 abstracts. He has been an invited speaker in more than half a dozen countries overseas including the USA, Japan, Hong Kong, Malaysia, Thailand, Singapore and China. He has been a member of the Rotary "Operation Open Heart" project in Burma over the past three years which undertakes humanitarian work and skills exchange in developing countries.

Dr Aaron Walton
Infectious Diseases Physician, Dept of Infectious Diseases, Barwon Health, Geelong, Australia

Dr Walton completed his undergraduate training and internal medicine residency at Duke University in the USA before migrating to Australia in 2002. He completed his advanced training in infectious diseases at Monash Medical Centre in Melbourne, and in 2006 returned to Duke for an additional year of infectious diseases training. Since 2008 he has worked as a general and infectious diseases physician at Barwon Health in Geelong, Victoria, and always a glutton for punishment, in 2010 he embarked on a further course of training in medical microbiology under the auspices of the Royal College of Pathologists of Australasia.

Dr George Watt
Epidemiologist and Tropical Medicine Consultant, Epidemiology Section, International, Emerging, Infections Program, Thailand MOPH ¡V US CDC Collaboration, Nonthaburi, Thailand

Dr. George Watt has been doing clinically-oriented research in the tropics since 1983. He first worked at the US Navy Medical Research Unit (NAMRU-2) in Manila, Philippines, where his work focused on improving the efficacy of treatments for cobra bite, cerebral schistosomiasis and leptospirosis. He subsequently worked at AFRIMS in Bangkok, Thailand for 14 years, where his principal research interests were scrub typhus infection and interactions between the HIV-1 virus and acute tropical infections of public health importance. This work led to descriptions of drug resistant scrub typhus and the novel demonstration that scrub typhus infection suppressed the HIV-1 virus both in vitro and in vivo. Dr. Watt has been with the International Emerging Infections Program (IEIP) since 2008 and is IEIP's Principal Investigator on a continuing project aimed at defining the etiology of blood culture negative endocarditis in Northeastern Thailand.

GENERAL INFORMATION

GENERAL INFORMATION

Venue

The Sebel Cairns Hotel
17 Abbott Street
(PO Box 934)
Cairns, QLD 4870

Tel: +61 7 4031 1300
Fax: +61 7 4031 1801
Toll free: 1800 079 100
Web: www.cairnsinternational.com.au

The venue will host the symposium sessions, poster presentations and symposium day catering.

Registration Desk

The registration desk will be located in the Foyer on the Ground Level of the Sebel Hotel (separate to hotel reception). All enquiries should be directed to the registration desk which will be open at the following times:

Sunday 24 July: 8.30am – 6.00pm
Monday 25 July: 8.00am – 6.00pm
Tuesday 26 July: 8.00am – 2.00pm

Speaker Preparation Room – Tully 2

Please proceed to this room at least 4 hours prior to or the day before your presentation.

The hours of operation are:
Sunday 24 July: 10.30am – 6.00pm
Monday 25 July: 7.30am – 6.00pm
Tuesday 26 July: 7.30am – 11.00am

A technician will be available in the speaker preparation room to assist you and to discuss any audio visual queries you may have.

If you are not providing slides for your presentation, please advise the AV technician in the Speaker Preparation room 4 hours prior to your session.

Poster Displays – Mossman Ballroom

The poster display will be held in the Mossman Ballroom on the ground floor of the Sebel Hotel which also contains the catering.

The poster display area will be open during the following hours:

Sunday 24 July: 10.30am – 6.00pm
Monday 25 July: 8.00am – 6.00pm
Tuesday 26 July: 8.00am – 11.00am

Internet

Internet, proudly sponsored by The Symposium Organisers will be available in the Mossman Ballroom on the Ground Floor

A computer will be available for:

- Completing an online conference evaluation survey
- Printing a certificate of attendance
- Viewing the abstract search database
- Viewing delegate lists

Smoking

This Symposium has a no smoking policy.

Mobile Phones/Beepers

As a courtesy to all delegates and speakers, please switch off, or set to silent, your mobile phones and beepers during all sessions.

Name Badges

For security purposes, all attendees must wear their name badge at all times while in the conference venue. Entrance to the poster displays will be limited to badge-holders only. If you misplace your name badge, please advise staff at the registration desk.

Personal Mail

The symposium organisers do not accept responsibility for personal mail. Please have all mail sent to your accommodation address.

Liability/Insurance

In the event of industrial disruptions or natural disasters the Symposium Secretariat cannot accept responsibility for any financial or other losses incurred by delegates.

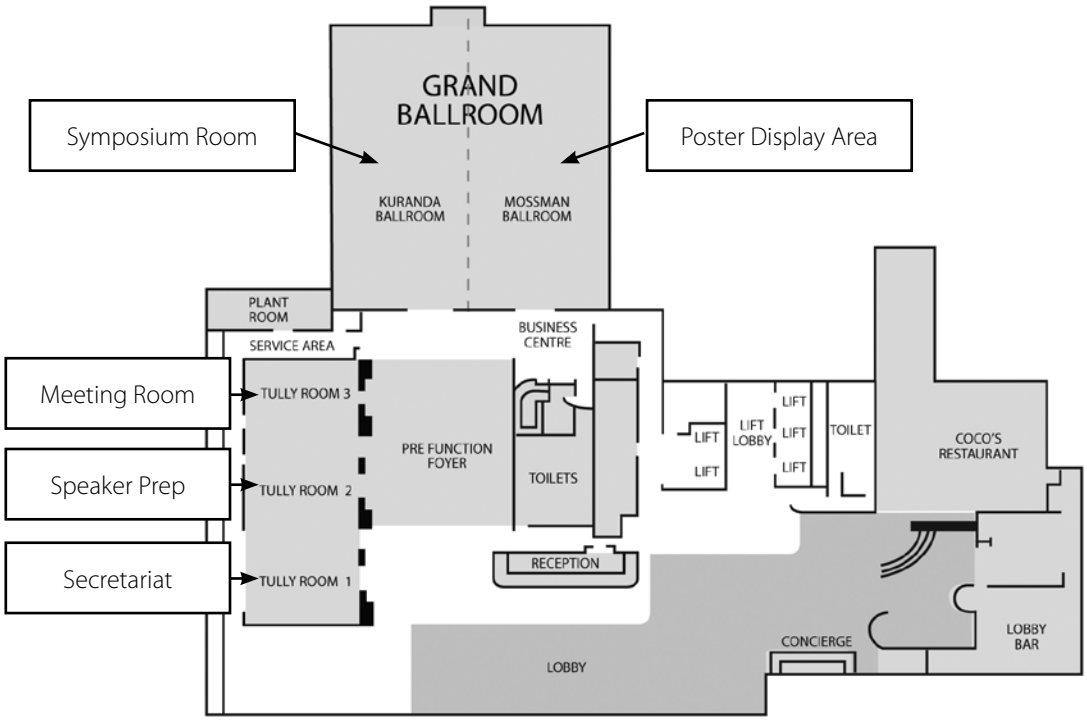
Nor can the Secretariat take responsibility for injury or damage to property or persons occurring during the Symposium or associated activities. Insurance is the responsibility of the individual delegate.

Disclaimer

The information in this handbook is correct at the time of printing. The Secretariat reserves the right to change any aspect of the program without notice.

LOCATION MAP – CAIRNS

VENUE FLOOR PLANS – THE SEBEL HOTEL



ASSOCIATED EVENTS AND LOCAL TOURS

Welcome Reception

5.30pm – 7.00pm, Sunday 24 July 2011
Daintrees Pool Deck, The Sebel Hotel

All delegates are invited to enjoy a relaxing end to the first day of the conference. This is an opportunity to catch up with old and make new friends, whilst enjoying drinks and canapés. Please advise the secretariat if you wish to attend by 3.30pm on Sunday 24 July

Ticket cost: One ticket to the Welcome Reception is included for all registrants or A$55.00 for day registrants and guests. Please advise the secretariat if you wish to attend

Symposium Dinner

7.00pm, Monday 25 July 2011
The Waterfront Terrace, The Hilton Hotel Cairns

Join us for dinner on the Waterfront Terrace, the only place in Cairns city, where you can dine under the stars and be surrounded by tropical palms, all whilst enjoying stunning views out over the calm waters of Trinity Inlet. Live entertainment will be provided by Diana Clark, award winning Melbourne singer/songwriter who draws from Brazilian pop and jazz.

This dinner is not to be missed!

Ticket cost: Included in full conference registration or A$165.00 for day registrants and guests.

Barrier Reef Tour

Experience the breathtaking beauty of this world heritage natural wonder when you cruise to a spacious reef activity platform on the Outer Great Barrier Reef. There's an abundance of activities for all ages, swimmers and non-swimmers to enjoy. Snorkel and dive amongst beautiful coral gardens, or stay dry and discover the reef in the underwater observatory or from the air-conditioned semi-submersible.

For further information please contact:
Wayne Smith – Quicksilver Group (Tel 07 4052 7806 / Mob 0407 631 394)

Skyrail and Rainforestation Nature Park Tour

Skyrail Rainforest Cableway, Cairns Australia, is a world first in environmental tourism taking you on an amazing experience over Australia's World Heritage listed Tropical Rainforest canopy and deep into the forest. Then visit the World Heritage Rainforest, an eco-friendly Kuranda attraction hosts Army Duck Rainforest Tours (with Tropical Fruit Orchard), Pamagirri Aboriginal Experience and Kuranda's largest Koala & Wildlife Park.

For further information please contact:
Marni Barnett – Skyrail Rainforest Cableway (Tel 07 4042 2200 / Mob 0402 255 468)

ATTENDANCE POINTS

The Australasian College of Surgeons

This educational activity has been approved in the College's CPD Program. Fellows who participate can claim one point per hour (maximum 14 points) in Category 4: Maintenance of Clinical Knowledge and Skills towards 2011 CPD totals.

RACP Continuing Professional Development Points

The Royal Australasian College of Physicians Continuing Professional Development Points Registrants may claim 1 credit /hour of the conference attended to a maximum of 50 credits annually in the Category 2: Group learning activities section.

Presenters at any of the sessions may claim:

Publication (5 credits/publication)

All publications of scientific or educational content may be claimed within this category. This credit allocation will be allowed regardless of the number of authors and does not require that the publication be subject to peer review.

Presentation (3 credits/presentation)

The first presentation of a paper or poster on issues of medical or educational significance at conferences, seminars, workshops, grand rounds, QA meetings, scientific or educational meetings are included within this category.

Within Category 1: Educational development, teaching & research.

The onus is on the Fellow themselves to determine the total number of credit points they may claim and to claim them. Further information and access to the MyCPD program is available through the RACP website www.racp.edu.au.

The Royal College of Pathologists of Australia

For the RCPA Continuing Profession Development Program Fellows and Affiliates of The Royal College of Pathologists of Australia are to log the number of hours spent at the conference. These hours are to be included in your total hours submitted to the college for the program.

FULL CONFERENCE PROGRAM

FULL CONFERENCE PROGRAM

SUNDAY 24 JULY 2011	
8.30am	Registration Opens
9.00am – 10.30am	**ISCVID Council Meeting** Tully 3
10.30am	Poster Display Area Opening, Mossman Ballroom
11.00am – 12.30pm	**ICE Investigator Meeting** Tully 3
12.30pm – 1.30pm	Lunch and Poster Viewing, Mossman Ballroom
1.30pm – 3.00pm	**Opening and Future Directions for ICE plus** Kuranda Ballroom Chairs: Ralph Corey and Eugene Athan
1.30pm – 1.35pm	**Welcome to the Land**
1.35pm – 1.40pm	**Welcome** Government Official
1.40pm – 1.45pm	**Welcome Address** Associate Professor Eugene Athan Director, Department of Infectious Diseases, Barwon Health, VIC, Australia
1.45pm – 2.00pm	**ICE: 10 years and Counting** Vivian Chu Assistant Professor of Medicine, Division of Infectious Diseases, Duke University Medical Center, Durham North Carolina, USA Professor Ralph Corey Gary Hock Professor of Global Health; Director of Infectious Diseases Research, Duke Clinical Research Institute, North Carolina, USA
2.00pm – 2.10pm	**Endocarditis Service in the Real World - Case Presentation 1** Professor Steve Chambers Department of Pathology, University of Otago, Christchurch; Clinical Director, Department of Infectious Diseases, Christchurch Hospital, Christchurch New Zealand
2.10pm – 2.20pm	**Endocarditis Service in the Real World - Case Presentation 2** Associate Professor Eugene Athan Director, Department of Infectious Diseases, Barwon Health, VIC. Australia
2.20pm – 2.30pm	**Endocarditis Service in the Real World - Case Presentation 3** Associate Professor Denis Spelman Head-Microbiology and Deputy Director-Infectious Diseases, The Alfred Hospital, Melbourne, VIC, Australia
2.30pm – 3.00pm	Discussion
3.00pm – 3.30pm	Afternoon Tea In Poster Area, Mossman Ballroom

SUNDAY 24 JULY 2011	
3.30pm – 5.30pm	**Epidemiology of IE** Kuranda Ballroom Chairs: Steve Chambers and David Gordon
3.30pm – 4.00pm	**Global Trends in IE Epidemiology** Professor David Murdoch Professor and Head of Pathology, University of Otago, Christchurch, New Zealand
4.00pm – 4.15pm	**Proffered Paper: Temporal trends in Infective Endocarditis (IE): Three one-year population-based surveys over 18 years** Professor Pierre Tattevin Infectious Diseases and ICU, Pontchaillou University Hospital, France
4.15pm – 4.30pm	**Zoonotic Pathogens as a Cause of Blood Culture Negative Endocarditis in Northeast Thailand** Dr George Watt Epidemiologist and Tropical Medicine Consultant, Epidemiology Section, International Emerging Infections Program, Thailand MOPH – US CDC Collaboration, Nonthaburi, Thailand
4.30pm – 5.00pm	**Endocarditis in Paediatrics and Congenital Heart Disease** Associate Professor Andrew Cochrane Adult and Paediatric Cardiac Surgeon, Monash Medical Centre/ Southern Health, Melbourne, VIC. Australia
5.00pm – 5.30pm	**Technical Challenges in the Surgical Management of Aortic and Mitral Valve Endocarditis** Mr Peter Skillington Cardiothoracic Surgeon, Deputy Director, Department of Cardiothoracic Surgery, Royal Melbourne Hospital, Melbourne, VIC, Australia
5.30pm – 7.00pm	Welcome Reception, Daintrees Pool Deck, Sebel Hotel

MONDAY 25 JULY 2011	
8.00am	Registration
8.00am – 8.45am	Arrival coffee/tea in Poster Area, Mossman Ballroom
8.45am – 10.30am	**Unusual pathogens and Unusual hosts** *Sponsored by MSD* Kuranda Ballroom Chairs: Margaret Hannan and Denis Spelman
8.45am – 9.00am	**Proffered Paper: Characteristics and Prognosis of Enterococcal Endocarditis within the ICE Prospective Cohort Study (PCS)** Associate Professor Eugene Athan Director, Department of Infectious Diseases, Barwon Health, VIC, Australia
9.00am – 9.15am	**Endocarditis in IV Drug Users and HIV-infected Patients** Dr Carlos Mestres Senior Consultant, University of Barcelona, Spain
9.15am – 9.30am	**HACEK Infective Endocarditis: Characteristics and Outcomes from a Large, Multi-national Cohort** Professor Steve Chambers Department of Pathology, University of Otago, Christchurch; Clinical Director, Department of Infectious Diseases, Christchurch Hospital, Christchurch New Zealand
9.30am – 9.45am	**Q fever Endocarditis: Does Serology really predict outcome?** Dr Arístides de Alarcón Consultant, Infectious Diseases Service, Universitary Hospital Virgen del Rocío, Seville and Collaborator Professor of Medicine, University of Seville, Spain
9.45am – 10.00am	**Fungal endocarditis in the age of echinocandins: Can non-operative management ever be recommended?** Dr Aaron Walton Infectious Diseases Physician, Deprtment of Infectious Diseases, Barwon Health, Geelong, VIC, Australia
10.00am – 10.30am	**Enterococcal Endocarditis: Can we win the war?** Dr Barbara Murray Chief of Infectious Diseases and Co-Director, Center for the Study of Emerging and Re-Emerging Pathogens, UTHSC-H, USA
10.30am – 10.40am	**Enterococcus Endocarditis: AMPICEF Project** Professor Pierre Tattevin Infectious Diseases and ICU - Pontchaillou University Hospital, France
10.40am – 11.00am	Morning Tea in Poster Area, Mossman Ballroom
11.00am – 12.30pm	**Staphylococcal Infections** *Sponsored by Novartis Pharmaceuticals* Kuranda Ballroom Chairs: Damon Eisen and Ralph Corey
11.00am – 11.15am	**Epidemiology of Staphylococcus Aureus Bacteremia in Australia/NZ (ANZCOSS)** Professor John Turnidge Clinical Director, Microbiology and Infectious Diseases, Pathology, SA, Australia

MONDAY 25 JULY 2011	
11.15am – 11.30am	**Community MRSA in Australia** Professor Graeme Nimmo Director of Microbiology, Pathology, QLD, Australia
11.30am – 11.45am	**Deadly but not virulent: the epidemiology and pathogenesis of coagulase-negative staphylococcal infections** Dr Vivian Chu Assistant Professor of Medicine, Division of Infectious Diseases, Duke University Medical Center, Durham North Carolina, USA
11.45am – 12.00pm	**Therapeutic options for Staphylococcus aureus endocarditis** Associate Professor Wendy Munckhof Infectious Diseases Physician and Clinical Microbiologist, Princess Alexandra Hospital and Associate Professor of Medicine, University of Queensland, QLD, Australia
12.00pm – 12.15pm	**Proffered Paper: Treatment of Methicillin-Susceptible Staphylococcus aureus (MSSA) Infectious Endocarditis (IE) with First Generation Cephalosporins (FGC) Versus Penicillinase-Resistant Penicillins** Dr Dannah Wray Associate Professor of Infectious Diseases, Medical University of South Carolina, USA
12.15pm – 12.30pm	**Proffered Paper: Meta-analysis shows that aspirin useage is associated with reduced systemic embolisation in patients with infective endocarditis** Associate Professor Damon Eisen Victorian Infectious Diseases Service, Royal Melbourne Hospital, VIC, Australia
12.30pm – 1.30pm	Lunch in Poster Area, Mossman Ballroom
1.30pm – 3.15pm	**Cardiac Device Infections, Vascular Prostheses and Mycotic Aneurysms** *Sponsored by St Jude Medical* Kuranda Ballroom Chairs: Morteza Mohajeri
1.30pm – 1.45pm	**Insights into Biofilm Infections** Dr Anna Walduck Senior Research Fellow, Department of Microbiology and Immunology, University of Melbourne, VIC, Australia
1.45pm – 2.00pm	**Cardiac Implantable Electronic Device Infections** Associate Professor Neil Strathmore Cardiologist, Royal Melbourne Hospital, University of Melbourne, VIC, Australia
2.00pm – 2.15pm	**Clinical Characteristics and 1 year Outcome of Cardiac Device Infective Endocarditis** Associate Professor Eugene Athan Director, Department of Infectious Diseases, Barwon Health, Australia
2.15pm – 2.30pm	**Infection Morbidity with Ventricular Assist Devices; Impact and Outcomes** Professor Donald Esmore Director, Heart and Lung Transplant Unit and CJOB Cardiothoracic Unit, The Alfred Hospital, Melbourne, VIC. Australia
2.30pm – 2.45pm	**Ventricular Assist Device Infections** Associate Professor Denis Spelman Head-Microbiology and Deputy Director-Infectious Diseases,The Alfred Hospital, Melbourne, VIC, Australia

MONDAY 25 JULY 2011	
2.45pm – 3.00pm	**The Infected Aortic Stent Graft** Dr Damian Holdaway Vascular Surgeon, Geelong Hospital/Barwon Health, VIC, Australia
3.00pm – 3.15pm	**Prosthetic Valve Endocarditis, Overview** Associate Professor Julie Mundy Director, Department of Cardiothoracic Surgery, Princess Alexandra Hospital, Woolloongabba, QLD, Australia
3.15pm – 3.45pm	Afternoon Tea in Poster Area, Mossman Ballroom
3.45pm – 5.45pm	**Surgery and Update in Echocardiography** Kuranda Ballroom Chairs: Carlo Mestres and Alan Appelbe
3.45pm – 4.00pm	**Ross Procedure in Aortic Valve Endocarditis** Dr Taweesak Chotivatanapong Cardiothoracic Surgeon, Chest Disease Institute, Thailand
4.00pm – 4.30pm	**Early Surgery Debate** Facilitator: Dr Carlos Mestres Senior Consultant, University of Barcelona, Spain Pro: Professor Ralph Corey Gary Hock Professor of Global Health; Director of Infectious Diseases Research, Duke Clinical Research Institute, North Carolina, USA Dr Alan Appelbe Senior Consultant, Department of Cardiology, Barwon Health, VIC, Australia Con: Associate Professor Julie Mundy Princess Alexandra Hospital, Department of Cardiothoracic Surgery, Woolloongabba, QLD, Australia Dr Taweesak Chotivatanapong Cardiothoracic Surgeon, Chest Disease Institute, Thailand
4.30pm – 4.45pm	Discussion
4.45pm – 5.15pm	**Update on Echo in the Management of I.E** Dr Darryl Burstow Senior Staff Cardiologist and Clinical Director of Echocardiography,The Prince Charles Hospital, Brisbane and Associate Professor, Department of Medicine, University of Queensland, Australia
5.15pm – 5.30pm	**Proffered Paper: Long-term follow-up of cryopreserved vascular homografts in vascular infection. A two-decade single-center longitudinal analysis** Dr Carlos Mestres Senior Consultant, University of Barcelona, Spain
5.30pm – 5.45pm	**Proffered Paper: Surgery of infective endocarditis (IE) analyzed within a one-year population-based study** Professor Pierre Tattevin Infectious Diseases and ICU, Pontchaillou University Hospital, France
7.00pm	Symposium Dinner – Waterfront Terrace,The Hilton Hotel, Cairns

TUESDAY 26 JULY 2011	
8.00am	Registration
8.00am – 9.00am	Arrival coffee/tea in Poster Area, Mossman Ballroom
9.00am – 10.30am	**Rheumatic Heart Disease: Update in Epidemiology, Pathogenesis and Public Health** Kuranda Ballroom Chairs: David Murdoch and Ru San Tan
9.00am – 9.30am	**Burden of Rheumatic Heart Disease** Professor Michael Good AO National Health Medical Research Council of Australia Fellow, Griffith University, QLD, Australia
9.30am – 9.45am	**J8-DT, A Candidate group a Streptococcus (GAS) vaccine that induced long term strain-independent memory responses that protect from Pyoderma and Bateraimia** Professor Michael Good AO National Health Medical Research Council of Australia Fellow, Griffith University, QLD, Australia
9.45am – 10.00am	**The Rheumatic Heart Disease Burden is Controllable** Professor Diana Lennon Professor of Population of Children and Youth Health, Paediatrician in Infectious Disease, Starship Hospital, Auckland, New Zealand
10.00am – 10.15am	**MAFU SAI (Heart Screening and Identification) Project in the Island Kingdom of Tonga.** Dr Toakase Fakakovikaetau Paediatric Specialist, Community Health Project Coordinator, RHD Program Coordinator & Focal Point, Tonga
10.15am – 10.30am	**Proffered Paper: Prevalence of pro-thrombotic genetic polymorphisms in infective endocarditis** Dr Emanuele Durante-Mangoni Assistant Professor of Internal Medicine, Second University of Naples, Italy
10.30am – 11.00am	Morning Tea in Poster Area, Mossman Ballroom
11.00am – 12.30pm	**Prophylaxis Guidelines, Advanced Surgical Techniques and Closing** Kuranda Ballroom Chairs: Jan Van der mer and Morteza Mohajeri
11.00am – 11.45am	**Prophylaxis Update and Discussion** Professor Jan Van De Meer Internist/Infectious Diseaes Physician, Academic Medical Center, University of Amsterdam, The Netherlands
11.45am – 12.00pm	**Mitral Valve Repair for Mitral Valve Endocarditis** Dr Taweesak Chotivatanapong Cardiothoracic Surgeon, Chest Disease Institute, Thailand
12.00pm – 12.30pm	**Infective Endocarditis in Trans Catheter Valve Replacement** Associate Professor Darren Walters International Cardiologist, Clinical Director Cardiac Catheterisation and Director of Cardiology, The Prince Charles Hospital, Chermside, QLD, Australia
12.30pm – 12.45pm	**Closing Remarks and Announcement of next ISCVID meeting** Associate Professor Eugene Athan Director, Department of Infectious Diseases, Barwon Health, Australia
12.45pm – 1.45pm	Conference Closing Luncheon, Twin Peaks, The Sebel Hotel

ORAL PRESENTATION ABSTRACTS

ORAL PRESENTATION ABSTRACTS

1.30 – 3.00pm SUNDAY 24 JULY 2011

■ **Opening and Future Directions ICE Plus**

PAPER NUMBER: 3	**ICE 10 YEARS AND COUNTING**
Vivian H. Chu MD, MHS - Assistant Professor of Medicine, Division of Infectious Diseases Duke University Medical Center, Durham North Carolina U.S.A Professor Ralph Corey Gary Hock Professor of Global Health; Director of Infectious Diseases Research, Duke Clinical Research Institute, North Carolina, USA	The International Collaboration on Endocarditis was created in 1999 as a consortium of investigators dedicated to improve our knowledge of an important, but under-studied disease. The ICE consortium is composed of 64 sites in 28 countries worldwide. Since its inception, the ICE group has maintained its strong professional connections, collected prospective data on > 5000 patients with IE, and published > 30 manuscripts in high impact peer-reviewed journals. In an effort to improve the outcomes of patients with IE, ICE continues to move forward with new projects and its goal of developing and participating in clinical trials.

PAPER NUMBER: 5	**Endocarditis Service in the Real World - Case Presentation 1**
Professor Steve Chambers Department of Pathology, University of Otago, Christchurch; Clinical Director, Department of Infectious Diseases, Christchurch Hospital, Christchurch New Zealand	

PAPER NUMBER: 6	**Endocarditis Service in the Real World - Case Presentation 2**
Associate Professor Eugene Athan Director, Department of Infectious Diseases, Barwon Health, VIC. Australia	

PAPER NUMBER: 7	**Endocarditis Service in the Real World - Case Presentation 3**
Denis Spelman Head-Microbiology and Deputy Director-Infectious Diseases, The Alfred Hospital , Melbourne, VIC, Australia	

3.30pm – 5.30pm pm SUNDAY 24 JULY 2011

■ **Epidemiology of IE**

PAPER NUMBER: 8	GLOBAL TRENDS IN IE EPIDEMIOLOGY
Murdoch, DR Department of Pathology, University of Otago, Christchurch P.O. Box 4345 Christchurch, New Zealand Tel: +64 3 364 0590 E-mail: david.murdoch@cdhb.govt.nz	Knowledge of the epidemiology of infective endocarditis is largely based on data obtained from a relatively small number of countries with temperate climates. Recently, this perspective has broadened due to the International Collaboration on Endocarditis Prospective Cohort Study (ICE-PCS) and other studies from a wide variety of countries from around the world. These data have highlighted some regional differences in the epidemiology and microbiology of infective endocarditis. For example, Streptococcus bovis endocarditis appears to be more prevalent in Europe than other regions and HACEK endocarditis is more common in Australasia than in North America. Endocarditis on a background of rheumatic heart disease remains common in many developing countries, while the characteristics of endocarditis are particularly influenced by contact with health care services in North America. Further research is needed in order to better highlight worldwide variations in the epidemiology of infective endocarditis.

PAPER NUMBER: 126	TEMPORAL TRENDS IN INFECTIVE ENDOCARDITIS (IE): THREE ONE-YEAR POPULATION-BASED SURVEYS OVER 18 YEARS
Duval X,[1] Delahaye F,[2] Alla F,[3] Tattevin P,[4] Obadia JF,[2] Le Moing V,[5] Doco-Lecompte T,[3] Celard M,[2] Poyart C,[6] Strady C,[7] Chirouze C,[8] Bes M,[2] Cambau E,[9] Iung B,[1] Selton-Suty C,[1] Hoen B[8] [1] Hôpital Bichat-Claude Bernard, Paris, France [2] Hospices Civils de Lyon, Lyon, France [3] Centre Hospitalier Universitaire, Nancy, France [4] Centre Hospitalier Universitaire, Rennes, France [5] Centre Hospitalier Universitaire, Montpellier, France [6] Hôpital Cochin, Paris, France [7] Centre Hospitalier Universitaire, Reims, France [8] Centre Hospitalier Universitaire, Besançon, France [9] Hôpital Saint-Louis, Paris, France	Objective To evaluate temporal trends in IE incidence and characteristics. Method From the three 3 one-year population-based surveys performed in France in 1991, 1999 and 2008, we analyzed IE characteristics and changes over time of age- and sex-standardized IE annual incidences, in the overall population and according to underlying heart disease and causative microorganisms. Results In the participating hospitals, 993 adults with expert-validated IE were admitted in 1991 (n=323), 1999 (n=331), or 2008 (n=339). IE incidence remained stable over time, at 35 (95% confidence interval, [31-39]), 33 [30-37] and 32 [28-35] cases per million in 1991, 1999 and 2008, respectively, with no oral streptococci IE incidence increase since the 2002 French IE prophylaxis guidelines modifications (8.1 [6.4-10.1], 6.3 [4.8-8.1], and 6.3 [4.9-8.0] in 1991, 1999, and 2008, respectively). Staphylococcus aureus IE incidence increase (5.2 [3.9-6.8], 6.8 [5.3-8.6], and 8.2 [6.6-10.2]) was not significant in the global population (P=0.228) but was significant in patients without previously known valve disease (1.6 [0.9-2.7], 3.7 [2.6-5.1], and 4.1 [3.0-5.6], P=0.012). Mean age, proportion of patients with diabetes mellitus, and cerebral emboli rates increased significantly over time whereas proportion of previously known underlying heart disease markedly decreased. In-hospital mortality remained high (20.7%, 15.4%, and 21.2%) and was independently associated with age and Staphylococcal IE in all three surveys. Conclusion IE characteristics continue to change rapidly. Restrictions of antibiotic prophylaxis indications have not been associated with increased incidence of oral streptococcal IE. In-hospital mortality was associated with characteristics of increasing prevalence (e.g. older age, Staphylococci).

PAPER NUMBER: 135	ZOONOTIC PATHOGENS AS A CAUSE OF BLOOD CULTURE NEGATIVE ENDOCARDITIS IN NORTHEAST THAILAND

George Watt
E georgew@th.cdc.gov
T 6689 927 9928 (Thailand)

Pachirat O[1], Fournier PE[2], Kosoy M[3], Watt G[4], Baggett H[4], Thamthitiwat S[4], Lepidi H[2], Puapairoj A[1], Lulitanond V[1], Paddock C[5], Zeidner N[3], Peruski LF[4], Raoult D[2], Maloney SA[4].

[1] Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand

[2] University of the Mediterranean, Marseille, France

[3] Bacterial Diseases Branch, Division of Vector Borne Infectious Diseases, Centers for Disease Control and Prevention, Fort Collins, Colorado USA

[4] International Emerging Infections Program, Thailand MOPH-US CDC Collaboration, Nonthaburi, Thailand, GDD RegionalCenter, US CDC SE Asia Regional Office

[5] National Center for Zoonotic, Vector-Borne, and Enteric Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Objectives

Data on causes of infective endocarditis in Asia are lacking.

Blood culture negative endocarditis (BCNE, standard blood cultures remain negative) is common and severe. We examined etiologies and characteristics of infective endocarditis in Northeast Thailand.

Methods

Patients aged >15 years hospitalized in Khon Kaen during 2010 who had endocarditis suspected by clinical signs and symptoms and echocardiogram were enrolled. Blood was cultured and tested by molecular and serologic assays. Tissue obtained during cardiac surgery was cultured and tested by PCR.

Results

The 45 patients enrolled to date had a median age of 43 years and 71% were male. Standard blood culture yielded a pathogen from 18 patients (40%); 27 patients (60%) had BCNE. Advanced testing led to more specific diagnoses in 9/18 culture-positive cases: Streptococcus sanguinis (2 cases), S. suis(1), S. sinensis(1), S. agalactiae(1), S. anginosus(1), S. gallolyticus(1), Enterobacter(1), and Q fever(1); and confirmed pathogens in 8 (30%) of 27 BCNE cases: (Q fever(2), Bartonella henselae(2), B. vinsonii(1), S. suis(1), S. mitis(1), and S. difficilis(1). Six of the 8 BCNE pathogens were zoonotic agents. Testing of surgical specimens identified a causative agent in 7 (50%) of 14 BCNE cases; 5 of the 7 were zoonotic pathogens.

Conclusions

Zoonotic pathogens were the most frequently identified cause of BCNE cases in Khon Kaen. These first reports of Q fever and Bartonella endocarditis in Thailand and of Streptococcus suis endocarditis in Khon Kaen support the need to increase physician awareness, strengthen detection capacity and improve understanding of the epidemiology, management and prevention of zoonotic endocarditis.

PAPER NUMBER: 35	ENDOCARDITIS IN PAEDIATRICS AND CONGENITAL HEART DISEASE

Associate Professor Andrew Cochrane
Adult and Paediatric Cardiac Surgeon, Monash Medical Centre/ Southern Health, Melbourne, VIC. Australia

PAPER NUMBER: 9	TECHNICAL CHALLENGES IN THE SURGICAL MANAGEMENT OF AORTIC AND MITRAL VALVE ENDOCARDITIS

Mr Peter Skillington
Cardiothoracic Surgeon, Deputy Director, Department of Cardiothoracic Surgery, Royal Melbourne Hospital, Melbourne, VIC, Australia

8.45am-10.30am MONDAY 25 JULY 2011

■ **Unusual pathogens and Unusual hosts**
Sponsored by MSD

PAPER NUMBER 103

CHARACTERISTICS AND PROGNOSIS OF ENTEROCOCCAL ENDOCARDITIS WITHIN THE ICE PROSPECTIVE COHORT STUDY (PCS)

Dr Catherine Chirouze [1], Dr Eugene Athan [2], Pr Francois Alla [3], Dr Vivian Chu [4], Pr Jose Maria Miro [5], Pr G. Ralph Corey [4], Pr Bruno Hoen [1]
[1] Dept of Infectious Diseases - University Medical Center of Besancon, France, [2] Department of Infectious Disease - The Geelong Hospital, Australia, [3] Epidemiologie et Evaluation Clinique -University Medical Center of Nancy, France, [4] Duke Clinical Research Institute - Duke University Medical Center Durham NC, USA, [5] Infectious Diseases Service - Hospital Clinic -IDIBAPS, Spain Characteristics and Prognosis of Enterococcal Endocarditis within the ICE Prospective Cohort Study (PCS)

Objective
The purpose of this study was to describe the clinical characteristics and prognostic factors of enterococcal IE within the ICE-PCS.

Methods
Among the 4794 cases of definite IE prospectively enrolled in ICE-PCS from 2000/1/1 to 2006/12/31, 1552 were due to streptococci/enterococci, distributed as follows: 500 enterococci (E, 32%), 759 oral streptococci (OS, 49%), and 293 group D streptococci (GDS, 19%). A three-group comparison was performed to identify specific characteristics of enterococcal IE and a multivariate logistic regression analysis was performed to identify prognostic factors of enterococcal IE.

Results
The majority of enterococcal IE were E. faecalis (n=453, 91%). VRE was isolated in 12 patients (3%). Results of three-groups comparisons were the following:

	E	OS	GDS	p
Mean age (years)	63.5	54.7	65.2	<0.0001
Healthcare associated (%)	23.4	4.0	2.5	<0.0001
Stroke (%)	16	14.7	13.3	0.6
Congestive heart failure (%)	19	18	19	0.9
One-year mortality (%)	29	15	18	<0.0001
Surgery within 60 days (%)	42	47	47	0.21

Multivariate analysis within the group of enterococcal IE identified 3 independent predictors of death: age (RR 1.02, 95%CI 1.007-1.035, p=0.004), stroke (time-dependant) (RR 1.9, 95%CI 1.3-2.8, p=0.0013), and congestive heart failure (RR 2.6, 95%CI 1.7-3.5, p<0.0001).

Conclusion
Compared to OS and GDS, enterococcal IE is more often health-care associated and is a more severe disease. Stroke and congestive heart failure are the best predictors of death.

PAPER NUMBER: 32

ENDOCARDITIS IN IV DRUG USERS AND HIV-INFECTED PATIENTS

Dr. Carlos Mestres
Senior Consultant,
University of Barcelona, Spain

Infective endocarditis (IE) is one of the most severe complications of parenteral drug abuse. The incidence of IE in intravenous drug abusers (IVDAs) is 2-5% per year, being responsible for 5-20% of hospital admissions and for 5-10% of the overall death rate. The prevalence of HIV infection among IVDA with IE ranges between 30-70% in urban areas from developed countries. The incidence of IE in IVDA is currently decreasing in some geographical areas, probably due to changes in drug administration habits undertaken by addicts in order to avoid HIV transmission. Overall, *Staphylococcus aureus* is the most common etiological agent, being in most geographical areas sensitive to methicillin (MSSA). The remainder

	of cases are caused by streptococcocci, enterococci, GNR, *Candida* spp. and other less common organisms. Polymicrobial infection occurs in 2-5% of cases. The tricuspid valve is the most frequently affected (60-70%), followed by the mitral and aortic valves (20-30%); pulmonic valve infection is rare (<1%). More than one valve is infected in 5-10% of cases. HIV-infected IVDA have a higher ratio of right-sided IE and *S. aureus* IE than HIV-negative IVDA. Response to antibiotic therapy is similar among HIV-infected or non HIV-infected IVDA. Drug addicts with non-complicated MSSA right-sided IE can be successfully treated with an i.v. short-course regimen of nafcillin or cloxacillin for 2 weeks, with or without addition of an aminoglycoside during the first 3-7 days. Surgery in HIV-infected IVDA with IE does not worsen the prognosis. The prognosis of right-sided endocarditis is generally good: overall mortality is less than 5%, and with surgery less than 2%). In contrast, the prognosis of left-sided IE is less favorable: mortality is 20%-30%, and even with surgery is 15%-25%. IE caused by GNB or fungi have the worst prognosis. Mortality between HIV-infected or non-HIV-infected IVDA with IE is similar. However, among HIV-infected IVDA, mortality is significantly higher in those who are most severely immunosupressed, with CD4+ cell count <200/µL or with AIDS criteria. Finally, IE in HIV infected patients who are not drug abusers is rare.

PAPER NUMBER: 50	**HACEK INFECTIVE ENDOCARDITIS: CHARACTERISTICS AND OUTCOMES FROM A LARGE, MULTI-NATIONAL COHORT**
Chambers ST[1] , Murdoch DR[1] , Morris A[2], MD, Holland D[3], Pappas P[4], Almela M[5] , Fernández-Hidalgo N[6] , Almirante B[6] , Bouza E[7], Forno D[8] , Garcia de la Maria C[5], Hannan MM[9], Harkness J[10], Kanafani ZA[11], Lalani T[12], Lang S[3], Raymond N[13], Read K[14], Vinogradova T[15], Woods CW[4], Wray D[16], G. Corey R[4], Chu VH[4], and the International Collaboration on Endocarditis Prospective Cohort Study (ICE-PCS) Investigators [1]University of Otago, Christchurch and Christchurch Hospital, Christchurch, New Zealand; [2]Auckland City Hospital, Auckland, New Zealand; [3]Middlemore Hospital, Auckland, New Zealand; [4]Durham, NC, USA; [5]Hosp. Clinic – IDIBAPS, University of Barcelona, Barcelona, Spain; [6]Hospital Universitari Vall d'Hebron, Barcelona, Spain; [7]Hospital General Universitario Gregorio Marañón, Madrid, Spain; [8]Maria Vittoria Hospital, Torino, Italy; [9]Mater Hospitals, Dublin, Ireland; [10]St. Vincent's, Sydney, Australia; [11]American University of Beirut, Beirut, Lebanon; [12]Naval Medical Center, Portsmouth VA, USA; [13]Wellington Hospital, Wellington, New Zealand; [14]North Shore Hospital, Auckland, New Zealand; [15]Russian Medical State University, Moscow, Russia; [16]Medical University of South Carolina, Charleston, USA.	Objective The HACEK organisms (Haemophilus species, Aggregatibacter species, Cardiobacterium hominis, Eikenella corrodens, and Kingella species) are rare causes of infective endocarditis (IE). The objective is to describe the clinical characteristics and outcomes of patients with HACEK endocarditis (HE) in a large, international, contemporary cohort. Methods Patients hospitalized with definite or possible endocarditis by the International Collaboration on Infective Endocarditis Prospective Cohort Study in 64 hospitals from 28 countries were included and characteristics of HE cases compared with IE due to other pathogens. Results Of 5591 patients enrolled, 77 (1.4%) had HE. HE was associated with a younger age (47 vs. 61 years; P<0.001), a higher prevalence of immunologic/vascular manifestations (32% vs. 20%; p<0.008) and stroke (25% vs. 17% P =0.05) but lower prevalence of congestive heart failure (15% vs. 30%; P =0.004), death in-hospital (4% vs. 18%; P =0.001) or after 1 year follow-up (6% vs. 20%; P =0.01) than IE due to other pathogens (n=5514). On multivariable analysis, stroke was associated with mitral valve vegetations (OR 3.60; CI 1.34-9.65; P <0.01) and younger age (OR 0.62; CI 0.49-0.90; P <0.01). Prosthetic valve endocarditis was more common in HE (35%) than Staphylococcus aureus endocarditis (17%, P <0.001) and viridans streptococcal endocarditis (18%, P <0.001). Conclusions HE is associated with good outcome and further studies are needed to determine why HE has a predilection for younger people and to cause stroke. The small number of cases and observational design limit inferences on treatment strategies.

PAPER NUMBER: 48	Q FEVER ENDOCARDITIS: DOES SEROLOGY REALLY PREDICT OUTCOME?
Dr Cesar Arístides De Alarcón Infectious Diseases Specialist, Spain	Q fever endocarditis (QFE) is the most serious complication of Coxiella burnetii infection and has been observed in 1-16% of reported cases of Q fever, but it can be much higher in patients with predisposing valvulopathy or prosthetic valves. In the literature, chronic Q fever is sometimes described as a severe illness with a spontaneous death rate that may exceed 65%. However, with appropriate antibiotic therapy, associated mortality can be reduced although the microorganism is difficult to eradicate, and a long course of treatment is necessary. The length of therapy was then critical, because relapses can occur many years later and recommendations have varied between 1 year to lifelong administration of combined antimicrobial therapy. Some authors have proposed the monitorization of Ig G levels in the setting that treatment could be stopped if phase I Ig G levels dropped below certain values. In a large multicentre study in Spain we analysed 83 patients with definite QFE (56 native and 27 prosthetic valve) treated with two approaches for the total time of antimicrobial therapy (serological criteria or not). A long-term follow-up after stopping treatment was required (median: 48 months) and final outcome (curation or relapse) was compared according with the serological titre at the end of therapy: less than 1:400 of phase I Ig G antibodies by indirect immunofluorescence (group 1, N = 23) or more than 1:400 (group 2, N = 30). Eleven patients (13.2%) died from QFE and other 8 died for other reasons not related to endocarditis during follow-up. Surgery was performed in 61 (73.5%) patients and combined antimicrobial treatment was long (median: 23 months, IQR: 12 – 36). Seven relapses were observed, but five of them had received an initial incomplete antibiotic regimen. In patients who completed the programmed treatment (range: 12 – 89 months), serological titres at the end of therapy were not useful for predicting the final outcome, with one relapse observed in each group. In conclusion, QFE requires a prolonged antimicrobial treatment and 18 - 24 months seems to be enough. In our opinion, only time of treatment is critical in this setting, and the monitorization of phase I antibodies titres as a guide for stopping antimicrobials only warranted a longer treatment in this study, with more cumulative toxicity.

PAPER NUMBER 113	FUNGAL ENDOCARDITIS IN THE AGE OF ECHINOCANDINS: CAN NON-OPERATIVE MANAGEMENT EVER BE RECOMMENDED?
Aaron L Walton, MD FRACP Barwon Health, Geelong, VIC 3220 Melbourne Pathology, Collingwood, VIC 3066	A small case series of candidal endocarditis managed medically will be presented. The published data supporting the current recommendation for combined medical and surgical treatment of fungal endocarditis will be reviewed. The comparative pharmacology of echinocandins and older antifungal agents as related to their effectiveness in the treatment of endocarditis will be examined and the ongoing value of a blanket recommendation for primary operative management of fungal endocarditis will be discussed.

PAPER NUMBER: 28	ENTEROCOCCAL ENDOCARDITIS: CAN WE WIN THE WAR?
Barbara E Murray University of Texas Medical School, Houston, Texas	Enterococci were reported in 1899 as gram-positive cocci causing infective endocarditis (IE) and are 3rd behind staphylococci and streptococci in causing this disease. Relatively little is known about pathogenesis of enterococcal IE. Hemolysin and gelatinase are secreted factors experimentally shown to contribute to E. faecalis IE; hemolysis is often encoded on plasmids that produce aggregation substance, which also contributes to IE. Our work on MSCRAMMs identified a ubiquitous collagen adhesin, Ace (whose expression is induced by serum and collagen), that is important in E. faecalis IE, as is its homologue, Acm (an **a**dhesin to **c**ollagen of E. faeciu**m)**, the first documented virulence factor of E. faecium; immunization against rAce or rAcm is protective against IE by the producing species as is a 5-antigen mix of other E. faecium MSCRAMMs. We have also identified pili in E. faecalis, encoded by the ubiquitous ebp (for **e**ndocarditis and **b**iofilm related **p**ili) locus and composed of 3 MSCRAMM subunits; pili also mediate serum-induced adherence of E. faecalis to fibrinogen and platelets. In unpublished data, monoclonal antibodies against Ebp pili were effective in preventing E. faecalis IE. The ebp locus is negatively regulated by the Fsr system, a homologue of the Agr system of staphylococci, which positively regulates gelatinase. Based on genome searches, both E. faecalis and E. faecium have other MSCRAMMs and future studies will address their contributions to enterococcal IE. Additional studies are needed to assess the ability of passive or active immunization to prevent enterococcal endocarditis, particularly caused by MDR E. faecium.

PAPER NUMBER: 136	ENTEROCOCCUS ENDOCARDITIS: AMPICEF PROJECT
Professor Pierre Tattevin Infectious Diseases and ICU - Pontchaillou University Hospital, France	

11.00am – 12.30pm MONDAY 25 JULY 2011

■ **Staphylococcal Infections**
Sponsored by Novartis Pharmaceuticals

PAPER NUMBER: 134	EPIDEMIOLOGY OF STAPHYLOCOCCUS AUREUS BACTEREMIA IN AUSTRALIA/NZ (ANZCOSS)
Professor John Turnidge Clinical Director, Microbiology and Infectious Diseases, Pathology, SA, Australia	In June 2007, we established a registry of outcomes for cases of Staphylococcus aureus bacteraemia in Australia and New Zealand with the support of the Australian Society for Antimicrobials, called the Australia New Zealand Co-operative on Outcomes in Staphylococcal Sepsis (ANZCOSS). The main purpose was to establish a baseline for the types of infections and the rates of 7-day and 30-day mortality, and to relate that mortality to a small number of factors for which data were readily accessible to participating diagnostic laboratories. A web-based data entry process was constructed to simplify data collection. Participation was sought on a voluntary basis. By end May 2011, 9647 cases from 33 participating centres had been entered and completed follow-up. Regular analyses of the data have revealed the following consistent patterns: significantly higher mortality in pneumonia and sepsis syndrome, at the extremes of life, in MRSA infections and also those treated with vancomycin, including those with MSSA infections. By contrast, lower mortality has been found in the Aboriginal/ Torres Strait Islanders (ATSI) linked to their younger age profile. The output of the database has stimulated further initiatives and research. A sub-study (laboratory plus clinical) designed to examine the purported inferior efficacy of vancomycin using retrospective data and using flucloxacillin-treated controls revealed the surprising result that increasing vancomycin MICs are associated with higher mortality, even in those patients treated with flucloxacillin. A second multi-centre prospective study has commenced (VANESSA) which will attempt to further unravel the reasons behind the "inferior" efficacy of vancomycin. A third study is underway to define regional variation in rates, and examine the impact on ATSI populations. The overall experience with ANZCOSS has been very positive for participants, and has generated data and hypotheses for further study. Such data generating hypotheses would not have been possible with single-centre studies and/or lower numbers.

PAPER NUMBER: 79	COMMUNITY MRSA IN AUSTRALIA
Professor Graeme Nimmo Director of Microbiology, Pathology Queensland Professor, School of Medicine, Griffith University	Australia has a long and unique experience with community-associated MRSA (CA-MRSA). Its emergence in Western Australia predated the epidemic in eastern states and epidemics in other countries around the world by over half a decade. The strains originating in WA did not to produce Panton-Valentine leukocidin (PVL), a toxin produced by CA-MRSA that appeared in eastern states and in other countries around the end of the last century. PVL-positive CA-MRSA are commonly associated with furunculosis in young age-groups and occasionally with necrotising pneumonia, osteomyelitis and other invasive infections. PVL negative strains are associated in the main with skin and soft tissue infections such as impetigo and wound infections. Australia has seen two waves in its CA-MRSA epidemic: one of PVL-negative strains spreading east from WA and the next of PVL-positive strains spreading west from Queensland and New South Wales. The virulent PVL-positive Queensland clone, which appeared in 2000, has played a prominent part in the latter wave and has now become the dominant strain in Australia. CA-MRSA appear less likely to cause infectious endocarditis than community-associated methicillin-susceptible Staphylococcus aureus.

PAPER NUMBER: 15	DEADLY BUT NOT VIRULENT: THE EPIDEMIOLOGY AND PATHOGENESIS OF COAGULASE-NEGATIVE STAPHYLOCOCCAL INFECTIONS
Dr Vivian Chu Assistant Professor of Medicine, Division of Infectious Diseases, Duke University Medical Center, Durham North Carolina, USA	Coagulase-negative staphylococci have traditionally been regarded as low virulence pathogens primarily involved in device-associated infections. Nevertheless, infective endocarditis due to these organisms is emerging as an important cause of morbidity and mortality among patients with both native and prosthetic valves. This presentation will focus on the clinical features of coagulase-negative staphylococcal endocarditis and genomic clues into the pathogenicity of this infection.

PAPER NUMBER: 45	THERAPEUTIC OPTIONS FOR STAPHYLOCOCCUS AUREUS ENDOCARDITIS
Munckhof WJ Infection Management Service, Princess Alexandra Hospital and University of Queensland, Brisbane, Queensland, Australia.	Methicillin-susceptible Staphylococcus aureus endocarditis (MSSA) is most effectively treated with an anti-staphylococcal penicillin such as flucloxacillin, dicloxacillin or nafcillin unless there are contra-indications to beta-lactam therapy. In mild penicillin hypersensitivity, cefazolin is sometimes used as a substitute for anti-staphylococcal penicillins but caution must be exercised as type A S aureus beta-lactamases can hydrolyse cefazolin. Pharmacodynamic evidence suggests that beta-lactams such as flucloxacillin are best given as continuous infusion and this is a convenient option for home intravenous antibiotic programmes. The addition of gentamicin to beta-lactam therapy for the initial treatment of MSSA endocarditis is now no longer recommended due to increased incidence of nephrotoxicity and lack of additional efficacy. Methicillin-resistant Staphylococcus aureus endocarditis (MRSA) is traditionally treated with twice-daily vancomycin aiming for trough levels of 15 – 20 mg/L, although continuous infusion vancomycin can be used. Most MRSA endocarditis infections are due to multi-resistant health-care associated strains of MRSA. Newer agents such as daptomycin and linezolid have been used to treat MRSA endocarditis and have a particularly important role if MRSA strains are either VISA (vancomycin-intermediate) or VRSA (vancomycin-resistant). Endocarditis with community-associated non-multiresistant strains of MRSA is rare except for USA300 strains which often occur in intravenous drug users. Most community-acquired MRSA endocarditis cases have been treated with vancomycin. Surgery is often required in the treatment of S aureus endocarditis due to the fulminant nature of the infection with high morbidity and mortality. A collaborative approach involving cardiologist, cardiac surgeon and infectious diseases physician or clinical microbiologist is necessary.

PAPER NUMBER: 104	TREATMENT OF METHICILLIN-SUSCEPTIBLE STAPHYLOCOCCUS AUREUS (MSSA) INFECTIOUS ENDOCARDITIS (IE) WITH FIRST GENERATION CEPHALOSPORINS (FGC) VERSUS PENICILLINASE-RESISTANT PENICILLINS (PRP)

Wray D[1], Nannini E[2], Pappas P[3], Hannan MM[4], Stryjewski M[5], Fowler V[5], Corey GR[5], Gordon D[6], Spelman D[7], Chu VH[5], and the International Collaboration on Endocarditis Prospective Cohort Study (ICE-PCS) Investigators

[1]Medical University of South Carolina, Charleston, USA, [2]National University of Rosario, Rosario, Argentina;. [3]Duke Clinical Research Institute, Duke University Medical Center, Durham, USA; [4]Mater Hospitals, Dublin, Ireland; [5]Duke University Medical Center, Durham, USA; [6]Flinders Medical Center, Adelaide, Australia; [7]Alfred Hospital, Melbourne, Austrália.

Presenting author:

Dannah W Wray MD
135 Rutledge Avenue
12th Flr Rutledge Tower, Rm 1211
Charleston, South Carolina 29425
Phone: 011-1-843-792-4541
e-mail : wraydw@musc.edu

Objectives

Reports of MSSA isolates exhibiting hyperproduction of beta-lactamases raise concern regarding the use of FGC, especially cefazolin, in treating IE. Nonetheless, treatment guidelines support use of FGC as an alternative to PRP. We sought to examine treatment outcomes of IE with FGC versus PRP among patients in the International Collaboration on Endocarditis Prospective Cohort Study (ICE-PCS).

Methods

399 patients with definite MSSA IE treated with either FGC or PRP were compared with respect to demographic factors, treatment variables, complications and outcome. Subgroup analyses were performed for native valve IE, left side IE, and hemodialysis (HD)-associated IE.

Results: Patients treated with FGC were significantly more likely to have HD-dependence (19% vs. 7%, p= 0.005), cancer (17% vs. 7%, p=0.01), and non-nosocomial healthcare associated IE (25% vs. 8%, p=0.001). Significant differences in the use of FGC vs. PRP were seen among regions/countries of origin. Patients treated with PRP more often suffered embolic complications (36% vs. 22%, p=0.0518). This difference was also found in the left sided NVIE subgroup (42% vs. 21%, p=0.02). Rates of surgical therapy along with mortality during initial hospitalization (17% vs. 19%, p= 0.62) and 1 year follow up (28% vs. 23%%, p=0.49) were not significantly different. Relapse was uncommon (n= 3 for FGC; n = 6 for PRP).

Conclusion

Treatment of MSSA IE with FGC versus PRP shows comparable early and 1-year mortality outcomes. Both treatment regimens were associated with infrequent relapse. Other complications associated with FGC versus PRP therapy may differ and warrant further study.

PAPER NUMBER: 84	META-ANALYSIS SHOWS THAT ASPIRIN USEAGE IS ASSOCIATED WITH REDUCED SYSTEMIC EMBOLISATION IN PATIENTS WITH INFECTIVE ENDOCARDITIS.
Eisen DP[1], Arnold Bayer AS[2], Street AC[1],McBryde ES[1]. [1] Victorian Infectious Diseases Service. Royal Melbourne Hospital, Grattan St, Parkville, Victoria, Australia. [2] Harbor-UCLA Medical Center, The UCLA School of Medicine, Los Angeles, CA, USA	Aspirin could affect the pathogenesis of infective endocarditis (IE) through both disease and organism specific mechanisms. Inhibition of platelet aggregation could improve all forms of IE, while aspirin's inhibition of Staphylococcus aureus virulence determinants including fibronectin binding protein and alpha-haemolysin may be beneficial in acute IE. Balanced against these possible improvements is the potential for increased bleeding. We have examined the collective results from published studies and conference abstracts and performed meta-analysis to elucidate this issue using available data. Six case-controlled studies and one randomised controlled trial described the clinical outcomes in a total of 2661 patients (641 aspirin / 2020 no aspirin) with probable or definite IE. Raw data from the studies were subjected to univariate analyses. Aspirin was associated with a reduction of systemic emboli (odds ratio 0.7, 95% confidence intervals 0.59 – 0.90). The usage of aspirin did not appear to be associated with major bleeding (OR 1.41, 0.96 – 2.06) or death (OR 1.04, 0.84 – 1.34). Meta-analysis showed a reduction in the frequency of systemic emboli in aspirin treated IE patients (OR 0.80, 0.64 - 1.00) using a random effects model. It appears that aspirin useage, mostly in patients taking the drug at the time of diagnosis of infective endocarditis, is associated with reduced risk of systemic emboli. This does not appear to be at the expense of an increase in bleeding complications or death. A large-scale, prospective intervention study should be performed to conclusively direct the future of aspirin as an adjunctive therapy for infective endocarditis.

1.30pm – 3.15pm MONDAY 25 JULY 2011

■ **Cardiac Device Infections, Vascular Prostheses and Mycotic Aneurysms**
Sponsored by St Jude Medical

PAPER NUMBER: 16	INSIGHTS INTO BIOFILM INFECTIONS
Walduck AK [1] , Eisen DP [2] [1] Bacterial Pathogenesis Laboratory, Department of Microbiology and Immunology, University of Melbourne. AWalduck@unimelb.edu.au. Tel 03 8344 9919 [2] Victorian Infectious Diseases Service, Royal Melbourne Hospital, Grattan St, Parkville, Victoria, Australia	To provide an update on recent developments in our understanding of biofilm-related infections, particularly in the context of cardiac devices. An overview of the insights now provided by new analytical and experimental model systems will be discussed. Biofilms are collections of microorganisms encased in a matrix that is often composed of both bacterial and host materials. They form on both natural surfaces such as heart valves or abiotic surfaces such as catheters, medical prostheses and implants. Biofilms form three-dimensional microbial communities of complex architecture through cell-to-cell communication and coordinated multicellular behaviour. The structure and composition of biofilms render them relatively resistant to disinfectants and to immune attack. A better understanding of how biofilms form, and how they interact with the immune system is required if we are to find solutions to preventing and treating these infections. In recent years, the use of advanced screening techniques such as proteomics and metabolomics have identified new targets, and new analytical approaches have increased our understanding of interactions with immune cells. Detailed microscopy studies in vitro have now shown that while biofilms vary in their susceptibility, they are not inherently protected against immune attack. There is, however, little published data on interactions between biofilms and immune cells in vivo, and recent data from animal models will be discussed. Bioluminescence imaging techniques have also permitted non – invasive monitoring of growth and dissemination of biofilms in living animals. These models are invaluable for testing of new antibiotics, biofilm inhibitors, and pre clinical testing of new implant materials and coatings.

PAPER NUMBER: 43	CARDIAC IMPLANTABLE ELECTRONIC DEVICE INFECTIONS
Strathmore NF Department of Cardiology, Royal Melbourne Hospital, Vic, Australia. +61 3 9832 2260 neil.strathmore@mh.org.au	Cardiac implantable electronic devices (CIED), which include pacemakers and implantable defibrillators, consist of a pulse generator implanted in a subcutaneous or submuscular pocket and one or more leads usually connected to the endocardium. Infections involving CIED have become increasingly common and are the subject of a 2010 Scientific Statement of the American Heart Association. Infections occur following approximately 1-2% of all CIED procedures. They include superficial incisional infections, pocket infections and lead endocarditis. Factors which make infections more common are pulse generator replacement or device upgrade, pre-procedural temporary pacing wire, pocket haematoma, early re-intervention, cancer, diabetes, steroids, renal failure and low-volume implant centres. Pathogenesis involves microbial adherence and formation of a biofilm, which resists antibiotics and phagocytosis. Staph. Aureus and particular strains of Staph Epidermidis are the most common organisms. Prevention of infection is by careful anticoagulant management, meticulous sterile technique and prophylactic antibiotics (proven by a recent randomized clinical trial). Management of CIED infections (other than superficial infections) involves removal of all hardware, debridement of infected tissue, a prolonged course of antibiotics and management of implantation of a new device. Extraction of chronically implanted CIED leads may be extremely difficult and requires specialized expertise and equipment. Major complications and death occur in 1-2% of cases. The incidence of CIED infections is increasing faster than the rate of CIED implantation and is likely to continue to be an important cause of morbidity and mortality.

PAPER NUMBER: 18	CLINICAL CHARACTERISTICS AND 1 YEAR OUTCOME OF CARDIAC DEVICE INFECTIVE ENDOCARDITIS
Athan E [1], Chu VH [2], Tattevin P [3], Selton-Suty C [4], Jones P [5], Naber C [6], Miro JM [7], Ninot S [7], Fernandez-Hidalgo N [8], Durante-Mangoni E [9], Spelman D [10], Hoen B [11], Lejko-Zupanc T [12], Cecchi E [13], Thuny F [14], Hannan M [15], Pappas P [16], Henry M [1], Fowler V [2], Crowley AL [2], Wang A [2]. [1]. Department of Infectious Diseases, Barwon Health, Geelong, Australia; [2]. Department of Medicine, Duke University Medical Center Durham, NC; [3]. Department of Infectious Disease, Pontchaillou University, Rennes, France; [4]. Cardiology service, CHU Nancy-Brabois, Nancy, France; [5]. University of New South Wales, Sydney, Australia; [6]. West German Heart Center, Department of Cardiology, Essen, Germany; [7]. University of Barcelona, Barcelona, Spain; 8. Hospital Universitari Vall d'Hebron, Barcelona, Spain; [9]. Second University of Naples, Monaldi Hospital, Naples, Italy; [10]. Alfred Hospital, Melbourne, Australia; [11]. University Medical Centre of Besancon, Besancon, France; 1[2]. Medical Center Ljubljana, Ljubljana, Slovenia; 1[3]. Maria Vittoria Hospital, Torino, Italy; [14]. Faculte de Medicine de Marseille, Marseille, France; [15]. Department of Microbiology, Mater Hospitals, Dublin, Ireland.	Background Infection of implanted cardiac devices is an emerging problem with significant morbidity, mortality, and health care costs. Objectives To describe the contemporary, global characteristics and outcome of cardiac device infective endocarditis (CDIE) with attention to its health care association (HCA) and to determine prognostic factors associated with in-hospital and 1 year mortality. Design, setting, participants Prospective, observational cohort study (International Collaboration on Endocarditis-Prospective Cohort Study) conducted at 61 centres in 28 countries, including 178 patients with definite CDIE as defined by modified Duke criteria who were enrolled from January 2000 to August 2006. Main outcome measure In-hospital and one-year mortality. Results CDIE was diagnosed in 175 (6.3%) of a total cohort 2760 cases of definite infective endocarditis (IE). There was co-existing valve involvement in 37%. The mean age was 67 years. Most CDIE cases were due to staphylococci. HCA was identified in 46% of cases and was associated with persistent bacteremia and increased mortality. In-hospital and one year mortality was 15% respectively and, in multivariate analysis, both were associated with S. aureus, HCA infection, concomitant valve infection, and heart failure. Complete removal of the device was performed in 81% of cases but was not associated with a survival benefit during index hospitalization or at one year follow-up. Conclusions CDIE, similar to native and prosthetic valve endocarditis, is significantly influenced by health care interventions in its development, microbiology, and outcome. CDIE is associated with a high rate of complications that result in a high in-hospital and one year mortality, particularly in patients with concomitant valve infection. Given the rapidly increasing number of cardiovascular implantable electronic devices, increased research on the prevention and treatment of this serious complication is needed.

PAPER NUMBER: 20	INFECTION MORBIDITY WITH VENTRICULAR ASSIST DEVICES; IMPACT AND OUTCOMES
Professor Donald Esmore Director, Heart and Lung Transplant Unit and CJOB Cardiothoracic Unit,The Alfred Hospital, Melbourne, VIC. Australia	

PAPER NUMBER: 19	VENTRICULAR ASSIST DEVICE INFECTIONS
Spelman D Infectious Diseases Department and Microbiology Unit, Alfred Hospital, Melbourne. Australia. Email:d.spelman@alfred.org.au	Background Ventricular assist device (VAD) implantation is an effective option for patients with severe heart failure. However, device-related infections remain a significant problem. Objective To describe the incidence and microbiological etiology of bacteremia in patients with VADs at our centre. Methods A retrospective study of patients having VAD implantation at the Alfred hospital from October 1990 to July 2009 was conducted. Medical records and microbiology databases were reviewed. Patients who were supported with a VAD for 72 hours or more were evaluated for demographic data, VAD type, and the occurrence of bacteremia. Results During the nineteen-year period, 135 patients with 153 VADs for a total duration of 17,304 support days (median 74 days) were included. Three types of VAD were used: Thoratec, Novacor and Ventrassist. Sixty one patients (45%) developed VAD- associated bacteremia with 3.5 episodes per 1,000 VAD support days. The rate of bacteremia per 1,000 days support was similar for the Thoratec, Novacor and Ventrassist VADs (7.8, 5.2 and 3.4 respectively, p=0.74). Staphylococcus aureus was the most common pathogen (25%). Conclusions Bacteremia is common in VAD patients. Ongoing questions include optimal and duration of therapy, effective preventive strategies and documentation of impact of bacteremia of patient outcome.

PAPER NUMBER: 21	THE INFECTED AORTIC STENT GRAFT
Holdaway D Suite 2/83 Myers St Geelong 3220, Victoria. T 03 5229 5055, HYPERLINK damienholdaway@hotmail.com	There has been a progressive change in the management of AAA with endoluminal stent grafting becoming the dominant form of treatment in many countries over open surgery. This discussion will examine the risk of infection of this large intravascular prosthesis in the short and medium term. A case will be used to demonstrate the diagnostics available to diagnose infection and the various treatment options. While infection is rare – reinterventions increase this risk. Mortality is high and treatment will depend on patient fitness, infectious organism and surgeon preference. Removal of the endograft with lower extremity revascularization by in-situ or extra-anatomic reconstruction is generally required.

PAPER NUMBER: 22	PROSTHETIC VALVE ENDOCARDITIS, OVERVIEW
Mundy J. Dept of Cardiothoracic Surgery, Princess Alexandra Hospital. Brisbane. Australia.	Prosthetic valve endocarditis (PVE) can arise early or late after surgery. The timing of the infection reflects different pathogenic mechanisms which in turn influence the epidemiology, microbiology, pathology and clinical manifestations of the infection. The risk of PVE is not uniform after valve replacement. The risk is greatest during the initial 3 months after surgery, remains high through the 6th month, and then falls gradually with an annual rate of approximately 0.4 from 12 months onwards. By 5 years the cumulative percentage ranges from 3-6%. There is an increased risk for both early and late PVE when a valve is placed in a patient for endocarditis, even if the infection is healed. The microbiology of PVE is relatively predictable when PVE is categorised by time from implantation. Early PVE is predominantly staphylococci or culture-negative whilst that occurring beyond 12 months in non IV drug users is similar to that seen in native valve endocarditis (NVE) as the aetiology is that of a transient bacteraemia. Mechanical prosthesis infections originate from the sewing cuff leading to paravalvar leaks, annular abscesses or invasion of adjacent tissue. Bioprosthetic infections however are mostly restricted to the cusps resulting in secondary bioprosthetic failure (stenosis or regurgitation) Duration of treatment for PVE is usually longer than for NVE with antibiotic sterilisation of coagulase negative staphylococci and enterococci extremely difficult. Early surgical intervention is necessary in most cases to prevent secondary complications.

3.45pm – 5.45pm MONDAY 25 JULY 2011

■ **Surgery and Update in Echocardiography**

PAPER NUMBER: 23 — ROSS PROCEDURE IN AORTIC VALVE ENDOCARDITIS

Dr Taweesak Chotivatanapong
Cardiothoracic Surgeon, Chest Disease Institute, Thailand

The Ross procedure has been an important surgical option for patients with aortic valve disease. It provides a viable valve , with growth potential, and thus renders this operation a most useful for young patients. Extended application of the procedure to treat patients with aortic valve endocarditis has proved to be gratifying by several studies (1, 2).

Although very useful, widespread use of this techniques poses several limitations, namely, complexity of the operation and paucity of homograft for the right ventricular outflow tract reconstruction (RVOT). Use of autologous pericardial valved conduit was advocated to overcome the shortage of homograft for RVOT reconstruction. Several studies on the use of pericardium in RVOT reconstruction have confirmed the effectiveness of this approach (3,4). Between 1997-2008 at Chest Disease Institute the Ross procedure was used in 57 patients with aortic valve disease , 51 of which were caused by infective endocarditis. Most of the patients were young with the mean age of 36.1 years. Hospital mortality occurred in 5 patients (4 in the first 30 cases and one in the last 27 cases). Late death was found in one case due to reinfection. Survival at 11 years was 89.5% and the valved conduit appeared to be stable over the study period. Among survivors there was no sign of recurrent infection. The details of surgical techniques and results will be presented in details.

In conclusion, the Ross procedure can be used in patients with endocarditis with gratifying results both in term of hemodynamic and curing of infection. In situation where the homograft was not available, autlogous pericardial valved conduit can be used as an alternative for RVOT reconstruction with predictable and durable results.

References:

1. Oswalt JD et al. Aortic infective endocarditis managed by the Ross procedure. J. Heart Valve Dis 1993; 2: 380-4
2. Joyce F et al. Semin Thorac Cardiovasc Surg 1996; 8 : 336-44
3. Schlichter et al. Five to fifteen years follow up of fresh autologous pericardial valved conduit J. Thorac Cardiovasc Surg 2000 May ;119 (5): 869-79
4. Koh M et al . Long term outcome of right ventricular outflow tract reconstruction using handmade tri-leaflet conduit. Eur J Cardiothorac Surg 2005, May ; 27(5): 807-14.

PAPER NUMBER: 27 — UPDATE ON ECHO IN THE MANAGEMENT OF I.E.

Burstow DJ
Senior Staff Cardiologist and Clinical Director of Echocardiography, The Prince Charles Hospital, Brisbane, Qld. Associate Professor, Department of Medicine, University of Queensland.

Echocardiography is the major diagnostic imaging modality used in suspected or known infective endocarditis (IE). In 1994, echocardiographic findings were incorporated into the Duke diagnostic criteria as major criteria and were defined as vegetation, abscess formation and new dehiscence of a prosthetic valve. The sensitivity of transthoracic echocardiography (TTE) for the detection of vegetations is now up to 75% but is reduced when image quality is poor or when implanted devices such as prosthetic valves and pacemakers are present. In these settings, Transoesophageal echocardiography (TOE) has proven advantages with the sensitivity for the detection of vegetations rising to 85-90%. TOE has even greater superiority for detecting complications such as abscess formation (90% sensitivity for TOE, 50% for TTE), prosthetic valve dehiscence and associated perivalvular regurgitation particularly in the mitral position. Therefore, TOE must

	be performed in the vast majority of suspected I.E. patients with the only situation in which TTE alone is considered sufficient is in cases with good-quality negative TTE and low clinical suspicion. Of emerging technologies, 3D TOE provides superior anatomic-spatial depiction of major anatomic complications but data proving additional diagnostic yield is still lacking and, although expensive, intracardiac echocardiography (ICE) provides the best imaging of right sided prosthetic devices. Echocardiographic surveillance during therapy remains an important adjunct to clinical assessment. TTE and TOE will detect and assess new valvular regurgitation, vegetation size (>10mm have high embolic risk) and the development of periannular infection. These findings have now been incorporated into clinical guidelines to aid in patient selection and the appropriate timing of valvular surgery.

PAPER NUMBER: 123	**LONG-TERM FOLLOW-UP OF CRYOPRESERVED VASCULAR HOMOGRAFTS IN VASCULAR INFECTION. A TWO-DECADE SINGLE-CENTER LONGITUDINAL ANALYSIS**
Mestres CA[1], Quintana E[1], Sandoval E[1], del Río A[2], Marco F[3], Ninot S[1], Cervera C[2], Josa M[1], Moreno A[2], Mulet J[1], Miró JM[2] Departments of Cardiovascular Surgery[1], Infectious Diseases[2] and Microbiology[3]. Hospital Clínico-IDIBAPS. University of Barcelona. Barcelona (Spain)	Background Vascular infections (VI) remain a potentially lethal condition and may develop at any level within the vascular system. This prospective observational study provides long-term data of the performance of cryopreserved vascular homografts (CVH) in this setting. Methods Patients with clinical suspicion of VI were treated by replacement of native tissue by CVH. Patients were prospectively included in the departmental database, observed for survival, reinfection, reintervention and limb salvage. Patient comorbidities, surgical indication and microbiologic data were registered. Results From October 1992 to June 2010, 42 patients (37 men, 5 women; mean age 63±11.2 years) underwent operation for VI using CVH in different anatomic regions. 30 were vascular reoperations. Operation was elective in 45.2%, urgent in 35,7% and emergency in 19%. Reconstruction was anatomic in 85.7% and extraanatomic in 14.3%. Staphylococcus aureus (5-11.9%), Coagulase-negative staphylococci (4-9.5%) Salmonella (3-7.1%) and Candida albicans (3-7.1%) were the most common pathogens with 7 culture-negative cases (16.6%). In-hospital mortality was 23.8%. Mean hospital stay was 30.5 days. Reoperation for non-infectious reasons on the allograft was required in 10.3%. 16 (39%) patients died during the follow-up. Amputation was required in 2. Survival analysis showed a mean survival (95% confidence interval) of 10.6 years (8.1-13.20) excluding perioperative mortality. No patient was on suppressive therapy for life. Conclusion This long-term study contributes to maintain the indication to use CVH in primary or secondary VI. Results demonstrate remarkable behaviour of CVH in a multi-morbid population. There is a wide variety of pathogens as causative agents.

PAPER NUMBER: 122	SURGERY OF INFECTIVE ENDOCARDITIS (IE) ANALYZED WITHIN A ONE-YEAR POPULATION-BASED STUDY

Delahaye F,[1] Selton-Suty C,[2] Iung B,[3] Obadia JF,[1] Le Moing V,[4] Frapier JM,[4] Chocron S,[5] Tattevin P,[6] Alla F,[2] Duval X,[3] Hoen B,[5] on behalf of the AEPEI Study group

[1] Hospices Civils de Lyon, Lyon, France

[2] Centre Hospitalier Universitaire, Nancy, France

[3] Hôpital Bichat-Claude Bernard, Paris, France

[4] Centre Hospitalier Universitaire, Montpellier, France

[5] Centre Hospitalier Universitaire, Besançon, France

[6] Centre Hospitalier Universitaire, Rennes, France

Objectives

To update the description of surgery in IE in France.

Methods

Prospective population-based observational study conducted in 6 regions representing 32% of the French population.

Results

Of 497 adults with Duke-Li definite IE diagnosed in 2008, 211 (42%) were operated during the active phase: 182 had left-heart only surgery, 12 had right-heart only surgery and 17 had both left and right-heart surgery. Among 399 patients with left ± right-sided IE, 46% had no previously known heart disease, 23% had prosthetic valve(s). Heart failure was present in 35% and stroke in 28%. IE was mitral in 44%, aortic in 40%, and both in 16%. Microorganisms were streptococcaceae in 54%, staphylococcaceae in 30% (S. aureus 24%), and unknown in 6%. 199/399 patients (50%) had valve surgery. Time elapsed between admission and surgery indication was 12 ± 16 days. Time elapsed between admission and surgery was 20 ± 22 days. Indication for surgery included heart failure (70%), embolism risk (54%), and infectious (39%). As compared to non-operated patients, operated patients were younger (58 vs 67 years, P<0.0001), more likely to be men (54% vs 38%, P=0.0046), with heart failure (43% vs 27%, P=0.0015), vegetation > 10 mm (81% vs 55%, P<0.0001), abscess (37% vs 13%, P<0.0001) and less often mitral IE (33% vs 53%, P<0.0001). Distribution of microorganisms was not statistically different. In-hospital mortality was lower (18% vs 28%, P=0.01).

Conclusion

Surgery is frequently indicated in IE. In unadjusted analysis, in-hospital mortality is significantly lower in operated patients.

9.00am – 10.30am TUESDAY 26 JULY 2011

■ **Rheumatic Heart Disease: Update in Epidemiology, Pathogenesis and Public Health**

PAPER NUMBER: 10	BURDEN OF RHEUMATIC HEART DISEASE
Professor Jonathan Carapetis Director, Menzies School of Health Research, Northern Territory, Australia	

PAPER NUMBER: 11	J8-DT, A CANDIDATE GROUP A STREPTOCOCCUS (GAS) VACCINE THAT INDUCES LONG TERM STRAIN-INDEPENDENT MEMORY RESPONSES THAT PROTECT FROM PYODERMA AND BACTERAEMIA
Michael F. Good, Manisha Pandey, Silvana Sekuloski, James McCarthy#, Jonathan Carapetis*, Jon Hartas and Michael Batzloff. Griffith University, #Queensland Institute of Medical Research, and *Menzies School of Health Research, AUSTRALIA	Background J8-DT is a vaccine candidate based on a conserved epitope from the M protein C3 repeat. We showed that vaccinated mice develop high titers and can survive systemic infection. However, it is not known if such titers can be achieved in humans, whether they are required, whether GAS exposure will boost immunity or whether the vaccine will protect against pyoderma. Objectives To determine: (i) if high titers at the time of challenge are required; (ii) if GAS exposure will boost immunity; and (iii) if the vaccine will protect from skin disease. Methods A novel skin model of infection has been developed using scarification of the nape of the neck followed by inoculation of $5x10^6$ cfu of M1 GAS. Results Mice were vaccinated and allowed to rest for 3 months by which time B cells were not actively producing antibody. Memory B and T cells from the spleen were then transferred to SCID mice that were then challenged with GAS. At the time of challenge mice had no circulating antibody to GAS. Following challenge they were able to rapidly boost antibody responses and clear the infection. Furthermore, vaccinated mice were able to rapidly clear GAS from a skin infection and never developed bacteraemia. Conclusion J8-DT is on the verge of a clinical trial. Our data suggest that it will induce long-term immunity, be boosted by low dose exposure to environmental GAS and prevent both pyoderma and bacteraemia. A high antibody titer at the time of exposure is not critical.

PAPER NUMBER: 12	THE RHEUMATIC HEART DISEASE BURDEN IS CONTROLLABLE
Lennon DR[1] [1] Community Paediatrics, School of Population Health,University of Auckland and Starship Hospital Infectious Diseases	It has been known that for several decades that Acute Rheumatic Fever (ARF) and Rheumatic Heart Disease (RHD) are controllable. (Lancet 1982; 1:143). The tools are being refined in the 21st Century using multiple modalities currently available, New Zealand's journey towards the control by 2020 of ARF/RHD seems attainable and may direction for some other countries.

PAPER NUMBER: 132	MAFU SAI (HEART SCREENING AND IDENTIFICATION) PROJECT IN THE ISLAND KINGDOM OF TONGA
Dr Toakase Fakakovikaetau Paediatric Specialist, Community Health Project Coordinator, RHD Program Coordinator & Focal Point, Tonga	Rheumatic Heart Disease is the disease of the poor being the leading cause of cardiovascular disease causing significant number of deaths in children and young adults in the developing world. Many cases are detected only when the disease progresses to cardiac failure. It affects children as young as 3 years and adults up to age of 50+ years. In many Pacific Islands it is the major cause of overseas referral taking as much as 5% of total annual health budget. In Tonga, a Cross Sectional Survey in 2003 – 2004 of 5053 (31%) of Primary School children ages 3 to 14 years old showed high prevalence of Rheumatic Heart diseases up to 46 per 1000. This set the platform for the MAFU SAI Project – MAFU Tongan for heart and SAI for good. This involves auscultation for murmur of all Class 1 and a screening echocardiography of all Final Year students in Primary schools. Each year an average of 3,500 students are screened. With a well established screening program plus good compliance with secondary prophylaxis the incidence of Rheumatic Heat Disease had decreased from 86 to 29 per 1000 in only 3 years. Echocardiography screening for Rheumatic Heart Diseases followed by good secondary prophylaxis is a very cost effective way to prevent progression and new cases of Rheumatic Heart Diseases in small population countries.

PAPER NUMBER: 105	PREVALENCE OF PRO-THROMBOTIC GENETIC POLYMORPHISMS IN INFECTIVE ENDOCARDITIS
Emanuele Durante Mangoni, Rosa Molaro, Domenico Iossa, Rosina Albisinni, Roberta Casillo, Cristina Caianiello, Daniela Pinto, Federica Agrusta, Irene Mattucci, Umberto Malgeri, Roberto Andini, Alessandra Senese, Fabiana D'Amico, Enrico Ragone and Riccardo Utili	Objective To assess the prevalence and clinical significance of three major genetic polymorphisms associated with thrombophilia in patients with infective endocarditis (IE). Methods We studied 157 Caucasian patients admitted to our centre because of definite IE. As controls, we studied 125 Caucasian blood donors from the same geographical area. All patients underwent blood cultures and echocardiography (>90% transesophageal). Genomic DNA was extracted with a spin-column method and subjected to PCR-RFLP analysis to seek for the following polymorphisms: factor V G1691A (FV Leiden), prothrombin 3'UTR G20210A, methylenetetrahydrofolate reductase (MTHFR) C677T. Results Patient median age was 60 years (17-87), 73% were males. 108 (69%) had left- and 49 (31%) right-sided IE. 97% of patients showed intracardiac vegetations with a median length of 14 mm. Blood cultures grew gram-positive cocci in most cases. The allelic frequencies in IE patients and controls were as follows: FV Leiden 4% vs 0% (p=0.063); prothrombin 2.8% vs 2% (p=0.96); MTHFR 43% vs 31% (p=0.05). Prevalences did not significantly differ according to the heart side involved (left, arterial flow vs right, venous flow) or type of IE (valvular vs device). Overall, the prevalence of these inherited thrombophilias was neither higher in patients with stroke or embolic complications nor in those carrying larger vegetations. Conclusion Our preliminary data seem to suggest that IE patients could be more likely than healthy controls to carry genetic polymorphisms associated to thrombophilia. Whether these inherited factors play a pathogenic role in the initiation and progression of IE remains unclear and warrants further study.

11.00am-12.30pm TUESDAY 26 JULY 2011

■ **Prophylaxis Guidelines, Advanced Surgical Techniques and Closing**

PAPER NUMBER: 29	MITRAL VALVE REPAIR FOR MITRAL VALVE ENDOCARDITIS
Dr Taweesak Chotivatanapong Cardiothoracic Surgeon, Chest Disease Institute, Thailand References 1 Dreyfus G, Serraf A, Jebara V. et. al. Valve repair in acute endocarditis. Ann Thorac Surg. 1990 ; 49 : 706-13 2 Muehrcke DD, Cogrove III DM, Lytle BW et. al. Is there an advantage to repairing Infected Mitral valves? Ann Thorac Surg 1997 ; 1718-24 3 Alexiou et. al. Surgery for active culture-positive endocarditis : Determinants of early and late outcomes. Ann Thorac Surg 2006 ; 69 : 1448-54 4 Kerchove L, Vanoverschelde JL, Poncelet A et al. Reconstructive surgery in active Mitral valve endocarditis : feasibility, safety and durability. Eur J Cardiothorac Surg. 2007; 31:592-99	Surgical management of infective endocarditis (IE) of mitral valve (MV) is a challenge for cardiac surgeons. Major goals of surgical treatment are eradication of infection, restoration of hemodynamic stability with the least possible late side-effects. Combined medical and surgical therapy is generally accepted to be the most effective option provided surgery is performed, if possible, in an aseptic situation but before complications arise. This is not always easy or simple. Dilemma often exists between advantages and disadvantages of delaying surgery to achieve aseptic condition. Choices of operation is another area of concern since long-term problem of prosthetic valve replacement is still unsolved either the limited durability for bioprosthesis or anticoagulant-related complication with mechanical valve. In addition to this prosthetic valve endocarditis poses a real threat in this particular situation. Mitral valve repair in IE has gained more popularity as a preferred operation in this clinical setting. Feasibility, safety as well as advantages of MV repair in IE over MV replacement was clearly shown from several studies (1,2). Role of early surgical intervention was evidenced as the determinants of adverse outcome were pulmonary edema, impaired left ventricular function and myocardial invasion by infection (3,4). Use of autologous pericardium for leaflet reconstruction and polytetrafeuoroethylene (PTFE) suture for neochordal implantation greatly improve successful rate of MV repair in IE. In conclusion, MV repair in IE is still a surgical challenge. Early surgical intervention is recommended for better outcome. Use of autologous pericardium and PTFE suture should be considered in addition to those established MV repair techniques in order to improve successful rate of MV repair in this clinical setting.

PAPER NUMBER: 30	INFECTIVE ENDOCARDITIS IN TRANS CATHETER VALVE REPLACEMENT
Associate Professor Darren Walters International Cardiologist, Clinical Director Cardiac Catheterisation and Director of Cardiology, The Prince Charles Hospital, Chermside, QLD, Australia	

POSTER LISTING

POSTER LISTING

Poster Number	Last Name	First Name	Paper Title
1	Achar	Jay	Aspergillus endocarditis: A review of eleven previously unpublished cases from the International Collaboration on Endocarditis
2	Al-Mogheer	Batool	Predictors of Inhospital Mortality in Patients with Infective Endocarditis
3	Bruun	Louise	Staphyloccocus Aureus endocarditis strikes independently of people's socioeconomical status.
4	Bruun	Louise	Diagnostic delay in left-sided infectious endocarditis(IE) - time does matter when adjusted for Staphylococcus Aureus!
5	Bruun	Niels	Only Staphylococcus Aureus has a more severe outcome than enterococcus infectious endocarditis (IE)
6	Bruun	Niels	Two weeks of gentamicin treatment is sufficient in enterococcus infectious endo-carditis (IE)
7	Cheng	Ching-Feng	Using statin therapy on a novel mouse model of infective endocarditis with vegetation induced by G-CSF and iron loading
8	Cheng	Ching-Feng	Echo guide, in vivo approach for establishment of a mice model of staphylococcal infective endocarditis
9	Chirouze	Catherine	Emergence of Healthcare-Associated Infective Endocarditis (IE) in the 2008 French Population-Based Study
10	Durante-Mangoni	Emanuele	High-dose daptomycin is safe and effective for cardiac implantable electronic device endocarditis
11	Durante-Mangoni	Emanuele	Platelet glycoprotein receptor polymorphisms in infective endocarditis: prevalence and pathophysiological significance
12	Fernandez-Hidalgo	Nuria	Length of antimicrobial treatment (AT) after surgery for infective endocarditis (IE). A prospective cohort study.
13	Fortes	Claudio	Is it possible to predict the virulence of the causative organisms of infective endocarditis according to the clinical presentation on the hospital admission?
14	Garcia Cabrera	Emilio	Vascular Neurological Complications in Infective Endocarditis and anticoagulant therapy.
15	Garcia Cabrera	Emilio	Neurological Complications in Infective Endocarditis: Risk Factors and Impact on the Outcome.
16	Garcia Cabrera	Emilio	Neurological Complications in Infective Endocarditis and cardiac surgery.
17	Giannitsioti	Efthymia	Tumour necrosis factor (TNF) -308 G/A polymorphism : Has it any role in the course of infective endocarditis?
18	Giannitsioti	Efthymia	Emerging MDR Gram negative nosocomial infective endocarditis . Colistin at a rescue?
19	Hannan	Margaret	Experience with Daptomycin in the treatment of Infective Endocarditis.

Poster Number	Last Name	First Name	Paper Title
20	Hoen	Bruno	Vertebral osteomyelitis (VO) associated with infective endocarditis (IE): characteristics analyzed within IE2008, a one-year population-based survey of IE
21	Krishnaswamy	Sushena	When it's not as cleanly cut as it seems: a case series of infective endocarditis in injecting drug users
22	Kumar	Jitendra	Choice of valve in endocarditis? Mechanical v/s Bioprosthetic- a continued challenge.
23	Labib	Dina	Can echocardiography reliably define the embolic risk in all endocarditis patients?
24	Levine	Donald	Multinational Clinical Experience with High Dose Daptomycin for the Treatment of Native Valve Endocarditis (NVE)
25	Logar	Mateja	Infective endocarditis caused by Cellulomonas spp. in an intravenous drug user - case report
26	Lontoc	Anthony	Aortic Prosthetic Valve Failure with Venstricular Septal Defect and Ruptured Coronary Sinus of Valsalva Caused by Infective Endocarditis
27	Lontoc	Anthony	Pericardial abscess: a rare complication of crypogenic liver abscess
28	Martinez-Marcos	Francisco Javier	Evaluation of the mortality of viridans group Streptococci left-sided endocarditis in two periods: 1984-2000 and 2001-2009.
29	Meshaal	Marwa	Routine Brain CT Angiography in Infective Endocarditis: Findings and Impact on Treatment Decisions
30	Meshaal	Marwa	Fungal Endocarditis Clinical Characteristics and Risk Factors ; A Prospective Cohort
31	Mestres	Carlos - A.	Long-term survival after surgery for aortic valve acute infective endocarditis: 15-year comparison of tissue valves, mechanical prostheses and homografts
32	Miro	Jose	Failure of Ampicillin (AMP) plus Ceftriaxone (CRO) for Treating Enterococcus faecalis (EF) Endocarditis (IE). Report of Three Cases.
33	Miro	Jose	Efficacy of Vancomycin (Van) Dosing Adjusted to Trough Serum Levels of 15-20 mg/L in the Treatment of Methicillin-resistant Staphylococcus aureus (MRSA) Experimental Endocarditis (EE) with Two Different Vancomycin MICs (0.5 or 2 mg/L).
34	Mustafa	Ahmad	Waitemata DHB Infective Endocarditis Audit A 5 year clinical experience with infective endocarditis in Auckland-comparison with ICE study.
35	Pikelj Pecnik	Andreja	Staphylococcus lugdunensis: A rare cause of coagulase-negative staphylococcal infective endocarditis in a tertiary referral centre
36	Plata	Antonio	Prosthetic valve endocarditis without surgery

Poster Number	Last Name	First Name	Paper Title
37	Seville	Teresa	Successful treatment of methicillin-resistant S. aureus (MRSA) small colony variant (SCV) left ventricular assist device (LVAD) infection
38	Siciliano	Rinaldo	B-type natriuretic peptide (BNP) as a prognostic factor for endocarditis
39	Siciliano	Rinaldo	Diagnostics of aortic vascular prosthesis infection using PETscan
40	Siciliano	Rinaldo	Low C-reactive protein (CRP) may be useful to rule out infective endocarditis in‖emergency department patients
41	Siciliano	Rinaldo	Pacemaker related infection presenting as chronic fever of unknown origin detected by 18F-fluorodeoxyglucose positron emission tomography-computed tomography (FDG PET-CT)
42	Sivaramakrishnan	Anand	Use of Matrix-assisted laser desorption/ionization - Time of Flight(MaldiTOF) technology for the identification of organisms in patients undergoing heart valve surgery for endocarditis
43	Skrlin	Jasenka	Microbiological monitoring and infection control in patients with mechanical cardiac support devices
44	Smit	Francis	Infective Endocarditis in Africa: What is the impact of the HIV pandemic?
45	Spelman	Denis	Heterogeneous Vancomycin-Intermediate Staphylococcus aureus (hVISA) bacteremia in patients with Left Ventricular assist devices (LVAD): a case series
46	Srinivasan	Govindarajan	Current trends in infective endocarditis in the last decadeâ€"from acute illness to delayed sequelae Single centre experience in New Zealand
47	Subramaniam	R	Third reported case of Bordetella Holmesii Endocarditis
48	Tattevin	Pierre	Early discharge has no impact on patient prognosis at one year: A study from the International Collaboration on Endocarditis Prospective Cohort Study (ICE-PCS)
49	Townell	Nicola	Community-associated MRSA Endocarditis: A Case Series and Literature review
50	Yarwood	Trent	Aspergillus endocarditis treated without amphotericin
51	Yew	Haur Sen (James)	HACEK Bacteraemias and Endocarditis

POSTER ABSTRACTS

POSTER NUMBER: 1
PAPER NUMBER: 108

ASPERGILLUS ENDOCARDITIS: A REVIEW OF ELEVEN PREVIOUSLY UNPUBLISHED CASES FROM THE INTERNATIONAL COLLABORATION ON ENDOCARDITIS

Achar J[1], Spelman DW[2,3], Jenney AWJ[1,2,3], Buising KL[1], Rowland M[4], Chu VH[5], Doyle JS[6], Eisen DB[6], Kholy AE[7], Hoen B[8], Jones P[9], Meshaal M[10], Rizk H[10], Doco-Lecompte T[11], Ravasio V[12], Miro JM[13], Munoz P[14], Wray D[15]

[1]Department of Infectious Diseases, St Vincent's Hospital Melbourne [2]Department of Microbiology, The Alfred Hospital

[3]Department of Infectious Diseases, The Alfred Hospital

[4]Department of Cardiothoracic Surgery, The Alfred Hospital

[5]Department of Medicine, Duke University Medical Centre, Duke Clinical Research Institute

[6]Victorian Infectious Diseases Service, Royal Melbourne Hospital

[7]Department of Microbiology, Cairo University Medical School

[8]Department of Infectious Diseases, University Medical Center of Besançon

[9]Department of Medicine, Prince of Wales Clinical School, University of New South Wales

[10]Department of Cardiology, Cairo University Medical School

[11]Department of Infectious Diseases, University Hospital of Nancy

[12]Department of Medicine, Division of Infectious Diseases, Ospedali Riuniti,

[13]Department of Cardiovascular Surgery, University of Barcelona

[14]Department of Clinical Microbiology and Infectious Diseases, Hospital General Universitario Gregorio Marañón

[15] Department of Medicine, Medical University of South Carolina

Objectives

To describe a series of eleven previously unpublished cases of Aspergillus endocarditis from the International Collaboration on Endocarditis.

Methods

A search was performed of the International Collaboration on Endocarditis (ICE) database. Data regarding patient demographics, presenting symptoms, past medical history, diagnostic tests and outcome were collected in all cases.

Results

Eleven cases of Aspergillus endocarditis were found in the database. According to the Modified Duke criteria, 9 were definite cases and 2 were possible cases. Six patients were male and 5 female. The mean age was 58 years old (range 27-78 years). Prosthetic valves were involved in 2 cases with 9 infections of native valves. Pacemaker wire infection with tricuspid valve involvement was identified in 1 case. Where speciation was available, 4 cases were attributed to A.fumigatus, while A.flavus was isolated 3 times and A.terreus twice. Nine patients progressed to surgery with 6 undergoing valve replacement. Pre-existing immunosuppression was identified in 5 cases and embolic phenomena were diagnosed in 8 cases. Eight patients died in this series with death occurring between 1 week and 5 months after diagnosis. The diagnosis was established at post-mortem in 1 case.

Conclusion

This series highlights the varied nature of this condition. High mortality, embolic phenomena, immunosuppression and the involvement of both native and prosthetic valves all appear to be important features of Aspergillus endocarditis. One of the cases will be described in detail to illustrate the pathology of this often difficult to diagnose condition.

POSTER NUMBER: 2 PAPER NUMBER: 80	PREDICTORS OF INHOSPITAL MORTALITY IN PATIENTS WITH INFECTIVE ENDOCARDITIS
Batool Al-Mogheer, Waleed Ammar, Wafaa Elarousy, Hussein Rizk Cardiology department, Cairo University, Cairo, Egypt	Introduction Despite antibiotic and surgical therapy, infective endocarditis (IE) remains a continuing threat with high mortality. Aim Determine incidence, causes and predictors of in hospital mortality in patients with IE. Setting Single tertiary care facility, Cairo University Hospital Methods- Hundred fifty five consecutive patients with Duke definite/possible IE admitted in the period from Feb. /2005 to Oct. /2008 were included. Demographic, clinical, microbiologic, and echocardiographic data obtained during hospitalization was analyzed. Results The mean time from symptoms onset to dignosis was 66.4±97 days. The in-hospital mortality was 38.7% (n=60). Causes of death were heart failure (23.3%), Sepsis (20%), surgery related (13.3%), Stroke (10%), cerebral hemorrhage (6.6%), pulmonary emboli (5%), sudden cardiac death (1.7%), hyperkalemia (1.7%), while the cause of death was undetermined in 18.3%. Predictors of mortality found on univariate analysis were duration of symptoms before admission (P=0.017), health care associated endocarditis (HAE) (P=0.039), Congestive heart failure (CHF) (P=<0.001), fulminant sepsis (P=<0.001), embolization (P=0.011), need for dialysis (P=0.003), need for cardiac surgery (P=0.027), not performing indicated cardiac surgery (P= 0.002) and higher C-reactive protein level (CRP) (P=0.05). In multivariate logistic regression only CHF remains an independent predictor of mortality (OR = 4.571; 95% CI, 1.134 to 18.43; p = 0.033) Conclusion IE mortality is high in this cohort probably due to late diagnosis. Heart failure is the most powerful predictor of mortality. Other important factors to be considered to for more aggressive treatment are; long duration before admission, HAE, fulminant sepsis, systemic embolization, dialysis, higher CRP level, performance of cardiac surgery when indicated.

POSTER NUMBER: 3 PAPER NUMBER: 59	STAPHYLOCCOCUS AUREUS ENDOCARDITIS STRIKES INDEPENDENTLY OF PEOPLE'S SOCIOECONOMICAL STATUS.
[1]Bruun LE, [1]Gislason G, [2]Hassager C, [1]Soegaard P, [2]Bundgaard H, [1]Bruun NE [1]Department of Cardiology Gentofte University Hospital, and [2]Department of Cardiology, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark	Objective Patients with Infectious Endocarditis (IE) often suffer from chronic diseases and co-morbidity. We examined if IE patients are characterized by lower socioeconomic status (SES) compared to patients with acute myocardial infarction (AMI). Population and methods From October 2002 to October2010, data has been prospectively collected from consecutive IE patients at two tertiary centers in Copenhagen, with a catchments area of 2,4 million people. 626 patients with IE (133 [22%] with Staphylococcus Aureus IE) were matched on age and sex with 2964 patients admitted with AMI in the same period and area as the controls. SES was defined as the average yearly household income in a period of 5 years before hospitalization and divided into five groups according to income. Conditional logistic regression analysis was used to estimate the association between SES and IE. Results For the entire population (3590 patients) we found, that IE patients had a significantly higher income ($57.485) compared to patients diagnosed with AMI ($50.195) ($p<0.001$). We found that the higher income the higher the risk of acquiring IE compared to AMI [odds ratio (OR) 1.26; 95% confidence interval (CI) 1.15-1.37 per $18.850 increment in household income ($p<0.0001$). However, when analyzing patients with Staphylococcus Aureus IE no significant correlation was demonstrated between SES and the risk of IE (OR 1.06; 95% CI 0.89-1.26). Conclusion IE is generally associated with higher SES compared to an age and sex matched cohort of AMI patients. But not Staphylococcus Aureus IE which strikes independently of SES.

POSTER NUMBER: 4 PAPER NUMBER: 61	DIAGNOSTIC DELAY IN LEFT-SIDED INFECTIOUS ENDOCARDITIS(IE) – TIME DOES MATTER WHEN ADJUSTED FOR STAPHYLOCOCCUS AUREUS!
[1]Bruun NE, [1]Rasmussen RV, [1]Bruun LE, [1]Soegaard P, [2]Bundgaard H, [2]Hassager CH. [1]Department of Cardiology Gentofte University Hospital, and [2]Department of Cardiology, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark	Objectives We have studied the impact of diagnostic delay, especially on 3 months mortality in IE. Population and methods From October 2002 to October 2010 data has been prospectively collected from consecutive patients with IE (n=626) at two tertiary centers in Copenhagen. At admission patients/relatives were asked when symptoms related to the disease had started and the interval to the final diagnosis was recorded - total diagnostic delay(TDD). Additionally, the interval from the time each patient for the first time presented the symptoms to a doctor – doctors diagnostic delay(DDD), and the time of the first admittance to hospital with symptoms of IE – hospital diagnostic delay(HDD) were noted. Results A total of 550 patients with only left-sided IE were included. Although Staphylococcus Aureus IE is associated with a high mortality, TDD and DDD were significantly shorter in this group of patients ($p<0.001$). Surprisingly, in high risk patients defined as prosthetic valves and/or previous IE, HDD was significantly longer than in low risk patients: 3 days (0-53) vs. 2 days(0-37) $p<0.006$. In patients >65 years all diagnostic delays were significantly prolonged. Overall no relationship between diagnostic delays and unadjusted 3 months mortality was found. However, after adjustment for Staphylococcus Aureus and other confounders we found a significant relationship between 3 months mortality and HDD> 15 days, (HR 3.15, 95% CI: 1.01-9.78; $p<0.05$) and DDD>90 days, (HR 6.97, 95% CI: 1.08-45.1; $p<0.05$). Conclusion Diagnostic delay remains an important modifiable factor in the prognosis of IE.

POSTER NUMBER: 5 PAPER NUMBER: 60	ONLY STAPHYLOCOCCUS AUREUS HAS A MORE SEVERE OUTCOME THAN ENTEROCOCCUS INFECTIOUS ENDOCARDITIS (IE).
[1]Bruun NE, [1]Rasmussen RV, [1]Bruun LE, [1]Soegaard P, [2]Bundgaard H, [2]Hassager CH. [1]Department of Cardiology Gentofte University Hospital, and [2]Department of Cardiology, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark	Background The incidence of enterococcus endocarditis has almost doubled in Denmark across the last decade. We have examined the characteristics and outcome of patients with enterococcus IE. Population and methods From October 2002 to October 2010 data has been prospectively collected from consecutive IE pt (n=626) at two tertiary centers in Copenhagen. Demographic data, co-morbidity, 3 months and 1-year mortality has been compared in patients with IE caused by enterococcus vs. other gram positive cocci. Results A total of 486 patients with gram positive cocci IE were included (97(20%) with enterococcus IE). Patients with enterococcus IE were older, more were men, received less surgery, and they had lower renal function but less embolic events. Changes of white blood cell count and CRP were more discrete in enterococcus IE. Diagnostic delays were prolonged both from start of symptoms (28(2-180) vs. 19(1-232, $p<0.05$) and from first contact with a doctor (14(1-160) vs. 9(1-178), $p<0.008$) in patients with enterococcus vs. other cocci, respectively. In-hospital, 3 months and 1 year mortality were similar in the two groups, but analyzing the individual pathogens, only Staphylococcus Aureus had worse 1-year mortality than enterococcus IE. Conclusion In patients with enterococcus IE older age, decreased renal function, prolonged diagnostic delay and less surgery are important contributing factors to a poor outcome. Only patients with Staphylococcus Aureus IE have a worse prognosis.

POSTER NUMBER: 6 PAPER NUMBER: 62	TWO WEEKS OF GENTAMICIN TREATMENT IS SUFFICIENT IN ENTEROCOCCUS INFECTIOUS ENDOCARDITIS (IE)
[1]Bruun NE, [1]Bruun LE, [1]Rasmussen RV, [1]Soegaard P, [2]Bundgaard H, [2]Hassager CH. [1]Department of Cardiology Gentofte University Hospital, and [2]Department of Cardiology, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark	Objective Guidelines differ significantly in recommendations on the length of gentamicin treatment in enterococcus IE. Of concern is the nephrotoxic effect of the drug. We examined if 2 weeks or less of gentamicin treatment as part of the standard regimen was as effective as prolonged treatment on mortality and treatment failure as well as the impact on renal function. Population and methods From October 2002-2010, data has been prospectively collected, from consecutive IE pt (626) from two tertiary centers in Copenhagen. After January 2007 a maximum of 2 weeks of gentamicin treatment was introduced as part of the standard protocol in enterococcus IE. Results A total of 97 patients were included, 50 with ≤ 14 days, and 47 with > 14 days of gentamicin treatment, mean 6 (3.6) days, and 28 (13.1)days, respectively. The two groups were comparable with respect to comorbidity, additional treatment and complications associated with the infection. Three months mortality 18% vs. 15% (log rank, p=0.6), and 1 year mortality 32%. vs. 30 (log rank, p=0.8) were similar. Treatment failure did not differ significantly between the two treatment groups. Estimated GFR did not change from admittance to discharge in the short treatment group: 57±34 vs. 56±32ml/min, but decreased from 71±35 to 57±26ml/min p=0.06 in the prolonged gentamicin treatment group. Conclusion Our data indicate that patients with enterococcus IE receiving maximal two weeks of gentamicin treatment have a similar longterm outcome, compared to patients with a longer treatment period. Additionally, renal function is preserved only during the shorter treatment.

POSTER NUMBER: 7 PAPER NUMBER: 66	USING STATIN THERAPY ON A NOVEL MOUSE MODEL OF INFECTIVE ENDOCARDITIS WITH VEGETATION INDUCED BY G-CSF AND IRON LOADING
Ching-Feng Cheng[1,2], Wei-Shiuang Lien[1] [1] Department of Medical Research and Pediatrics, Tzu Chi General Hospital, Hualien, Taiwan [2] Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan	Objectives Infective endocarditis (IE) have been one of the major cardiac diseases in developing countries with limited therapy regimen. Although inflammation-thrombosis interaction may be the major pathophysiology involved, exact underlying mechanism and appropriate in vivo animal model were still lacking. This report presents a new in vivo disease mouse model to study inflammation induced cardiac thrombosis mimicking vegetation seen in IE. Methods and Results We used iron loading to injure cardiac endothelium mimicking endothelial damage seen in IE, and used G-CSF to promote leukocyte recruitment. 11/15 iron and G-CSF treated mice (I+G) showed impaired cardiac function and thrombi formation in the ventricular chamber, with no abnormality in other experimental groups. Histological analysis revealed endothelial fibrosis, increased tissue factor expression, leukocyte infiltration, with increased inflammatory profiles in the I+G mice hearts. Simvastatin treatment in I+G mice attenuated cardiac apoptosis and abrogated thrombus formation by reducing systemic inflammation and leukocytosis, which was likely due to pAKT activation, implying crucial role of inflammation with inflammation-dependent thrombus formation. Conclusion We provide a novel in vivo disease model to elucidate inflammation-thrombosis interaction with their pathology mimicking vegetation seen in IE. We also suggested a possible molecular mechanism and proved the potential therapy using simvastatin on IE.

POSTER NUMBER: 8 PAPER NUMBER: 81	ECHO GUIDE, IN VIVO APPROACH FOR ESTABLISHMENT OF A MICE MODEL OF STAPHYLOCOCCAL INFECTIVE ENDOCARDITIS
Yu-Hong Wu, Ching-Feng Cheng Department of Medical Research and Pediatrics, Tzu Chi General Hospital, Hualien, Taiwan	Background Infective endocarditis involves the endocardium and valvular structure which remains clinical challenge with high mortality. An animal model with reproducible consistency and stability is of great help in evaluating newer therapies. Mice model using intra-cardiac polyurethane tube to provoke valvular damage has been developed, but the degree of valvular injury was variable as no accurate in vivo evaluation was available. The objective of this study was to modify current method of experimental infective endocarditis in mice, using an echo-guided approach to control the extent of valvular damage. Methods Seven weeks old, female ICR mice weighing 30 to 35 grams underwent general anesthesia with proper tissue dissection, then the submandibular to suprasternal region was exposed and aortic valve damage was induced by inserting a 32-gauge polyurethane tube from left carotid artery to the aorto-ventricular junction. Trans-thoracic echocardiography was applied to ensure the tube has been placed in the accurate position and that injury of aortic valve was similar. The tube was secured in place with incision wound closed. Twenty-four hours later, mouse-virulent, methicillin-susceptible S. aureus suspension was injected from lateral tail vein with 0.1ml of 6 $\log_{10}$, 7 $\log_{10,}$ and 8 $\log_{10,}$ respectively. The mice were left untreated for 48 hours, then he hearts were harvested, transversely sectioned and stained with hematoxylin and eosin. Results Eight catheterized mice were used for each group, and one non-catheterized was taken as control. The hearts of all mice were harvested and sections were examined. Under microscope inspection, those with induced aortic valve injury developed endocardial inflammation change, while non-catheterized mice had no signs of endocarditis. Furthermore, using 8 $\log_{10}$ methicillin-susceptible S. aureus strain provoked the most significant pathological result without mortality during incubation period. Conclusion Induced endocarditis can be controlled within similar severity under echocardiographic guidance. Systemic bacterial loading by 8 log10 methicillin-susceptible S. aureus strain can then result in significant pathology with vegetation formed after forty-eight hours incubation. Our method provides a stable, consistent model that can be used as a platform for further study of endocarditis.

POSTER NUMBER: 9
PAPER NUMBER: 124

EMERGENCE OF HEALTHCARE-ASSOCIATED INFECTIVE ENDOCARDITIS (IE) IN THE 2008 FRENCH POPULATION-BASED STUDY

Selton-Suty C,[1] Célard M,[2] Le Moing V,[3] Doco-Lecompte T,[1] Chirouze C,[4] Iung B,[5] Strady C,[6] Revest M,[7] Vandenesch F,[2] Bouvet A,[8] Delahaye F,[2] Alla F,[1] Duval X,[5] Hoen B,[4] on behalf of the AEPEI Study group

[1] Centre Hospitalier Universitaire, Nancy, France

[2] Hospices Civils de Lyon, Lyon, France

[3] Centre Hospitalier Universitaire, Montpellier, France

[4] Centre Hospitalier Universitaire, Besançon, France

[5] Hôpital Bichat-Claude Bernard, Paris, France

[6] Centre Hospitalier Universitaire, Reims, France

[7] Centre Hospitalier Universitaire, Rennes, France

[8] Hôtel Dieu, Paris, France

Objective

To update the description of epidemiological, clinical, microbiological, and prognosis characteristics of IE and to compare the profile of community-acquired vs. healthcare-associated IE.

Method

Prospective population-based observational study conducted in 6 French regions representing 32% of the French population. We measured age- and sex- standardized incidence of IE, and performed multivariate Cox regression analysis of relative risks of in-hospital death, both in the whole study population and in the subgroups of community-acquired and healthcare-associated IE.

Results

497 adults with Duke-Li definite IE were admitted in participating hospitals in 2008. Age- and sex-standardized annual incidence of IE was 33.8 (95% CI, 30.8-36.9) cases per million. Incidence was highest in men aged 75-80 years. A majority of patients (52.7%) had no previously known heart disease and 6.4% had a history of prior IE. Staphylococci were the most common causal agents, accounting for 36.2% of cases (Staphylococcus aureus 27.0%, and coagulase-negative staphylococci 9.3%). Healthcare-associated IE represented 26.7% of all cases and exhibited a clinical pattern different from that of community-acquired IE, with a higher mortality rate (31.1% vs. 20.3%, P=0.01). S. aureus as the causal agent of IE was the most important and the single factor associated with in-hospital death, respectively in community-acquired and healthcare-associated IE.

Conclusion

Healthcare-associated IE emerged as a major subgroup of the disease and S. aureus became both the leading cause and the most important prognostic factor in IE.

POSTER NUMBER: 10 PAPER NUMBER: 106	HIGH-DOSE DAPTOMYCIN IS SAFE AND EFFECTIVE FOR CARDIAC IMPLANTABLE ELECTRONIC DEVICE ENDOCARDITIS
Emanuele Durante Mangoni, Cristina Caianiello, Roberta Casillo, Mariano Bernardo, Daniela Pinto, Federica Agrusta, Irene Mattucci, Umberto Malgeri, Roberto Andini, Alessandra Senese, Fabiana D'Amico, Rosina Albisinni, Enrico Ragone, Susanna Cuccurullo and Riccardo Utili	Objective To describe our center experience with high dose Daptomycin in the treatment of staphylococcal endocarditis on Cardiac Implantable Electronic Devices (CIED). Methods Single center observational study of high dose daptomycin (>6 mg/kg/day) in 25 cases of definite CIED endocarditis. Results Patients were mostly elderly and male, carriers of a pace-maker, with large vegetations and several medical comorbidities. All had staphylococcal infection (S. epidermidis 56%, S. aureus 28%, coagulase-negative staphylococci 16%). Only 4 patients (16%) had a normal pre-treatment renal function. The median daptomycin daily dose was 8.3 mg/kg (range 6.2-10.7) and was administered for a median of 20 days (range 8-47). Percutaneous lead extraction was performed in 88% of patients. Two patients (8%) failed to clear methicillin-sensitive Staphylococcus aureus and were successfully switched to amoxicillin-clavulanate. The clinical success of antimicrobial treatment was 88% and a complete clinical cure was observed in 76% of patients after daptomycin treatment. Three patients died (12%). No serious adverse event related to high dose daptomycin administration was observed and no patiezt required discontinuation of daptomycin because of serum CPK level rise, renal or liver toxicity. Conclusion High dose daptomycin is a safe therapeutic option in staphylococcal CIED endocarditis and is associated with a very high clinical success as well as a satisfactory cure rate.

POSTER NUMBER: 11 PAPER NUMBER: 114	PLATELET GLYCOPROTEIN RECEPTOR POLYMORPHISMS IN INFECTIVE ENDOCARDITIS: PREVALENCE AND PATHOPHYSIOLOGICAL SIGNIFICANCE
Emanuele Durante Mangoni, Rosa Molaro, Domenico Iossa, Rosina Albisinni, Roberta Casillo, Cristina Caianiello, Daniela Pinto, Federica Agrusta, Irene Mattucci, Umberto Malgeri, Roberto Andini, Alessandra Senese, Fabiana D'Amico, Enrico Ragone, Riccardo Utili	Objective To assess the possible role of human platelet alloantigens (HPA) associated with platelet glycoprotein (GP) receptor polymorphisms in patients with infective endocarditis (IE). Methods We studied 110 Caucasian patients admitted to our centre because of definite IE. As controls, we studied 125 Caucasian blood donors from the same geographical area. All patients underwent blood cultures and echocardiography (>90% transesophageal). Genomic DNA was extracted with a spin-column method and subjected to a multiplex allele-specific PCR analysis to seek for HPA-1, -2, -3, -4 and -5 polymorphisms in platelet GPIIIa, GPIb-α, GPIIb and GPIa. Results Patient median age was 61 years (17-82), 76% were males. 77 (70%) had left- and 33 (30%) right-sided IE. 98% of patients showed intracardiac vegetations with a median length of 14 mm. Blood cultures grew gram-positive cocci in most cases. The allelic frequencies of platelet GP polymorphisms in IE patients and controls were as follows: HPA-1b 21% vs 13% (p=0.143); HPA-2b 25% vs 10% (p=0.004); HPA-3b 8.4% vs 34% (p=0.0001); HPA-4b 12% vs 0.25% (p<0.0001); HPA-5b 11% vs 8% (p=0.574). IE patients showed a significantly higher prevalence of HPA2b of GPIbα, that is associated with atherothrombotic events, and a much lower prevalence of HPA-3b of GPIIb. A striking increase in GPIIIa HPA-4b allele prevalence was also observed. Conclusion Platelets actively bind IE causative microorganisms within the endocardial vegetation. This may contribute to both initiation and growth of IE vegetations. While we keep on screening further IE patients, our preliminary data suggest that HPA-3 and HPA-2/4 genetic polymorphisms could confer protection or susceptibility, respectively, towards the development of IE.

POSTER NUMBER: 12 PAPER NUMBER: 46	LENGTH OF ANTIMICROBIAL TREATMENT (AT) AFTER SURGERY FOR INFECTIVE ENDOCARDITIS (IE). A PROSPECTIVE COHORT STUDY.
Fernández-Hidalgo N[1], Tornos P[2], Almirante B[1], Francisco-Pascual J[2], Galiñanes M[3], Gracia JM[3], González-Alujas MT[2], Planes AM[4] [1]Infectious Diseases, [2]Cardiology, [3]Cardiac Surgery, and [4]Microbiology Departments. Unitat d'Endocarditis. Hospital Universitari Vall d'Hebron. Barcelona, Spain.	Objective The aim of this study was to describe the length of AT after surgery for IE during the active phase of illness. Methods Between January 2000 and December 2010, we conducted a prospective observational study in a referral centre. Length of AT was adjusted after surgery according to valve culture. When positive, patients received a new full curse of AT. When negative, AT was finished as scheduled or even shortened if a minimum of 14 days after surgery was administered. Results 138 of 396 (34.8%) episodes of left-sided IE underwent surgery while in treatment. Valve culture was negative in 86, after a median length of 10 days of AT (IQR 4-20). Of them, 20 patients died. Of the remaining 66, AT was shortened in 12 cases. That meant saving a median of 10 days of AT (IQR 5-13), with no relapses during a median of follow-up of 1.1 years (IQR 0.4-4.1). Culture showed positivity in 40, after a median length of 6 days of AT (IQR 1-13). Of them, 45% died during admission. Surviving patients received a median of 32 days of AT (IQR 18-42) after surgery. One of them relapsed one month after discharge and cured without surgery. Finally, valve was not sent for culture in 12 episodes. One patient died at surgery, and the remaining 11 received AT as initially scheduled. None of them died nor relapsed after one year. Conclusion Valve culture seems to guide properly the duration of AT in IE undergoing surgery

POSTER NUMBER: 13 PAPER NUMBER: 112	IS IT POSSIBLE TO PREDICT THE VIRULENCE OF THE CAUSATIVE ORGANISMS OF INFECTIVE ENDOCARDITIS ACCORDING TO THE CLINICAL PRESENTATION ON THE HOSPITAL ADMISSION?
Claudio Querido Fortes [1], Natália Rodrigues Querido Fortes [1], Nelson Pereira Gonçalves [1], Sergio Salles Xavier [1], Vivian H. Chu [3 4], Vance Fowler[3 4] and, Ronir Raggio Luiz [2] [1] Hospital Universitário Clementino Fraga Filho, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil [2] Instituto de Estudos em Saúde Coletiva, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil. [3] Duke Clinical Research Institute, Duke University Medical Center, Durham, North Carolina, United States	Objective To assess how much the clinical classification of the infective endocarditis (IE) is capable to predict the virulence of the microorganism at the time of presentation. Another aims of this study is to evaluate the association of virulence of the causative organism with the clinical and epidemiological features besides to elaborate a predictive model of high virulence. Methods A cross-sectional incidence study of 250 episodes of definite IE with positive blood culture admitted at a University Hospital between 1978 and 2008. Results The clinical and the customary classifications of IE failed in predict that an episode was caused by a highly virulent microorganism or by an organism of indefinite virulence in 14.8% and 14.3% respectively. Duration of disease less than 2 weeks (OR 27.6), intravenous drug use (OR 48.6), non oral infectious focus (OR 81.5), change of the conscious (OR 8.7) and embolic peripheral stigmas (OR 24.8) were all independent risk factors for high virulence microorganism. The sensitivity, specificity, and positive and negative predictive values of model for high virulence microorganism were 94.9%, 84.0%, 85.2% and 94.4%, respectively. Conclusions Clinical classification as well as the model failed to predict that one episode was caused by a high virulent organism or by an agent with undefined virulence in a considerable percentage of cases, what would imply in not initiate the empirical treatment when it is recommended. The model is a little better than the clinical classification to predict when a case of IE is caused by a high virulent organism.

POSTER NUMBER: 14 PAPER NUMBER: 73	VASCULAR NEUROLOGICAL COMPLICATIONS IN INFECTIVE ENDOCARDITIS AND ANTICOAGULANT THERAPY
Authors: Emilio García Cabrera[1,2]; Nuria Fernández-Hidalgo[1]; Ravka Ivanova[2]; Mariam Noureddine[2]; José María Lomas[2]; Antonio Plata[2]; Carmen Hidalgo-Tenorio[2]; Juan Gálvez-Acebal[2]; Francisco Martinez-Marcos[2]; José Maria Reguera[2]; Javier de la Torre-Lima[2]; Josefa Ruiz[1,2]; Maria Victoria García-Lopez[1,2]; Benito Almirante[1] and Arístides de Alarcón[1,2]. 1) Spanish Network for Research in Infectious Diseases (REIPI) and 2) Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares de la SAEI.	Objective To asses the impact of anticoagulant therapy in the incidence of vascular neurological complications and to analyze the usefulness of transitory discontinuation of this therapy. Methods Multicentric cohort of 1,345 consecutive episodes of left-sided infective endocarditis (IE) recruited from 8 centers in Spain. The management of anticoagulant therapy (AT) was revised during the acute episode of IE and vascular neurological complications (VNC) were registered and classified as ischemic or hemorrhagic. Results A hundred patients were excluded because of a VNC was the first symptom that leads to IE diagnosis. Of the remaining 1,245, Two hundred and forty five patients (19.7%) were taking oral AT at the moment of diagnosis: 169 of them (Group 1, 68.9%) continued AT (135 with low molecular weight heparin and 41 with acenocoumarol without significant differences) and in 37 patients complete data were unavailable and were excluded for analysis. Sixteen (6.5%) patients, discontinued AT for clinical suspicion of VNC that was confirmed in 87.5%. Finally, 23 patients (Group 2, 9.4%) preventively discontinued AT during the septic phase of IE (median: 18 days). Forty-two VNC were observed in the group 1 (25 ischemic and 17 hemorrhagic events) vs two events in the group 2 (all ischemic). Hemorrhagic VNC were related to anticoagulant therapy (OR: 2.50 95% CI [1.45-4.32]), without reduction of ischemic events (OR 1.36 95% CI [0.94-1.95]). In the group 2, one patient with prolonged (6 weeks) discontinuation experienced valvular thrombosis. Conclusions A transitory (2 weeks) discontinuation of anticoagulant therapy during the septic phase of IE is safe and reduces the hemorrhagic neurological complications.

POSTER NUMBER: 15
PAPER NUMBER: 63

NEUROLOGICAL COMPLICATIONS IN INFECTIVE ENDOCARDITIS: RISK FACTORS AND IMPACT ON THE OUTCOME

Authors: Emilio García Cabrera[1,2]; Nuria Fernández-Hidalgo[1]; Ravka Ivanova[2]; Mariam Noureddine[2]; José María Lomas[2]; Antonio Plata[2]; Carmen Hidalgo-Tenorio[2]; Juan Gálvez-Acebal[2]; Francisco Martinez-Marcos[2]; José Maria Reguera[2]; Javier de la Torre-Lima[2]; Josefa Ruiz[1,2]; Maria Victoria García-Lopez[1,2]; Benito Almirante[1] and Arístides de Alarcón[1,2].

[1] Spanish Network for Research in Infectious Diseases (REIPI)

[2] Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares de la SAEI.

Objective

To asses the incidence of neurological complications (NC), the risk factors for its development, and their impact on clinical outcome.

Methods

Multicentric cohort of 1,345 consecutive episodes of left-sided infective endocarditis (IE) recruitment from 8 centers in Spain. Logistic regression models were performed to analyze risk factors for NC and the influence of these complications in early mortality (defined as in-hospital and one month after discharge deaths).

Results

Three hundred and forty patients (25%) suffered any NC, 85% of them before or during the first week of antimicrobial treatment. One hundred and ninety two patients (14.4%) had ischemic complications, 86 (6.4%) encephalpathy/meningitis and 60 (4.4%) hemorrhages. Independent risk factors associated with all NC were: vegetation size ≥ 3 cms (OR 3.40 [1.48-7.83]), S. aureus etiology (OR 3.12 [2.28-4.24]), mitral valve involvement (OR 1.39 [1.04-1.86]), and anticoagulant therapy at IE diagnosis (OR 1.64 [1.17-2.28]), which was related to a greater incidence of hemorrhagic manifestations (OR 3.61 [2.00-6.53]). Overall mortality was 30% and NC had a negative impact in the final outcome (45% of deaths if NC vs 24% without them; $p<0.01$) but only moderate-severe ischemic strokes (OR 2.19 [1.37-3.50]) and brain hemorrhages (OR 2.60 [1.33-5.33]) demonstrated a significant worse prognosis in multivariate analysis.

Conclusions

Neurologic complications have a negative impact on the outcome of IE, especially moderate-severe ischemic strokes and brain hemorrhages. Some risk factors were identified in this study and one of them (anticoagulant therapy) must be prevented.

POSTER NUMBER: 16 PAPER NUMBER: 71	NEUROLOGICAL COMPLICATIONS IN INFECTIVE ENDOCARDITIS AND CARDIAC SURGERY
Emilio García Cabrera[1,2]; Nuria Fernández-Hidalgo[1]; Ravka Ivanova[2]; Mariam Noureddine[2]; José María Lomas[2]; Antonio Plata[2]; Carmen Hidalgo-Tenorio[2]; Juan Gálvez-Acebal[2]; Francisco Martinez-Marcos[2]; José Maria Reguera[2]; Javier de la Torre-Lima[2]; Josefa Ruiz[1,2]; Maria Victoria García-Lopez[1,2]; Benito Almirante[1] and Arístides de Alarcón[1,2]. [1] Spanish Network for Research in Infectious Diseases (REIPI), [2] Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares de la SAEI	Objetive To analyse the impact of neurological complications (NLC) in cardiac surgery for infective endocarditis and the outcome after operation in patients with those events regarding the date of the surgical procedure and the type of NC. Methods Multicentric cohort of 1,345 consecutive episodes of left-sided infective endocarditis (IE) recruited from 8 centers in Spain. Neurological complications were clasiffied as ischemic (small or moderate-severe considering the size by brain CT scan) or hemorrhagic. Results Surgery was indicated in 783 patients (58.2%) but was performed only in 523 patients (39%), with a lower rate in those with NC: 109/340 (32%) vs 414/1005 (41%); p = 0.003. In fact, 62 (36,2%) patients with NC had a theoretical indication for surgery and were not operated on (neurological deteriorated status and unacceptable operative risk), vs 114 (21,6%) without them (p<0.001). Only 12/60 (20%) patients with cerebral hemorrhage were operated, and mortality was high: 3/4 (75%) in the first two weeks, 2/3 (66%) in the third week and 2/5 (40%) when surgery was done after 21 days of the event. Four of the seven total deaths were related with a new severe bleeding after cardiac operation. Fifteen of 54 patients (27.7%) with moderate-severe ischemic lesions were also operated: 5 of them before two weeks (two deaths, 40%) and 10 after (two deaths, 20%). Thirty-eight patients (70%) with small ischemic complications were operated in the first two weeks, with a higher mortality compared with patients without neurological events: 18/38 (47%) vs. 77/257 (30%); p= 0.032, but this higher mortality was observed also when surgery was performed after two weeks (8/16; 50% of mortality). Conclusions Valvular surgery can exacerbate cerebral damages after cerebrovascular events. The risk of postoperative bleeding seems to be lower after four weeks, in moderate-severe episodes and cerebral haemorrhages. Small ischemic complications have a small influence in mortality and surgery must not be deferred in these cases.

POSTER NUMBER: 17 PAPER NUMBER: 82	TUMOUR NECROSIS FACTOR (TNF) -308 G/A POLYMORPHISM : HAS IT ANY ROLE IN THE COURSE OF INFECTIVE ENDOCARDITIS?
Efthymia Giannitsioti[1], Georgia Damoraki[1], Chris K Rokkas[2], Archontoula Fragou[1], Sofia Athanasia[1], Stavroula Kanellaki[1], Evangelos J. Giamarellos-Bourboulis[1]. [1] 4th Department of Internal Medicine, University of Athens, Medical School, Greece [2] Cardiothoracic Surgery Department, University of Athens, Medical School, Greece	Objectives Although various studies have tried to find a link between polymorphisms (SNPs) of coagulation factors with a predisposition to infective endocarditis (IE), the role of SNPs of factors related with the immune response has not been studied. The impact of SNPs at the promoter -308 region of the TNF gene in the physical course IE was studied. Methods From 2007, sampling was prospectively done from 71 patients with definite IE. Genomic DNA was extracted from whole blood by the Puregene kit. The TNF 308G/A SNPs were detected by polymerase chain reaction, incubation with the enzyme NcoI and electrophoresis of the restriction fragments. Results Fifty-nine patients were carriers of both wild-type G alleles; 12 patients were heterozygotes for the SNP A allele; and one patients was homozygous for both SNP A alleles. Fifty-six patients had IE on native valves; seven on prosthetic valves and eight on pacemaker/defibrillator; 52 has some complication (emboli, renal failure, heart failure or valve abscess). In a multivariate logistic regression analysis after adjusting for persistent bacteremia, risk factors for IE, IE caused by staphylococci, prosthetic valve, history of diabetes mellitus type 2 and coronary heart disease, revealed that the only factor related with increased risk for IE complication was male gender (OR: 6.1, 95%CI 1-34, p=0.041). On the contrary, the presence of both wild-type G alleles was related with lower risk for complications (OR:0.2, 95% CI 0.04-0.93, p=0.039). Conclusions These results denote for the first time a role of SNPs of genes related with the immune function in the physical course of IE. Further studies are mandatory to better understand the interplay of immunity and IE.

POSTER NUMBER: 18 PAPER NUMBER: 68	EMERGING MDR GRAM NEGATIVE NOSOCOMIAL INFECTIVE ENDOCARDITIS . COLISTIN AT A RESCUE?
Giannitsioti E [1], Galani L [1,2], Karaiskos I [1,2], Lambadiari V[3], Rallidis L[4], Kontopidou F[1], Vassiliou P[5], Papadopoulos A[1], Stamboulopoulos K[3], Kazakou P[1], Koutoukas P[1], Kanellakopoulou K[1], Dimitriadis G,[3] Giamarellou H [1,2] [1] 4th Department of Internal Medicine, ATTIKON University General Hospital, Athens Greece [2] Hygeia General Hospital, Athens Greece [3] 2ndDepartment of Internal Medicine-Propaedeutic, ATTIKON University General Hospital, Athens Greece [4] 2nd Department of Cardiology ,ATTIKON University General Hospital, Athens Greece [5] 4th Department of Surgery, ATTIKON University General Hospital, Athens Greece	Background Nosocomial infective endocarditis (NIE) emerges worldwide. Multi-drug resistant Gram negative (MDRGN) IE is rare and relevant therapeutic data are limited. A case series of MDRGN NIE is presented. Patients-methods All patients fulfilling the Duke criteria for IE have been prospectively recorded on a data base registry in our hospital. NIE followed standard criteria (ESCMID, ESC, IDSA). MDRGN IE was defined as IE caused by Gram negative bacteria, resistant at least in two classes of antibiotics. Results The last 3 years among 72 IE cases, NIE was assessed in 17 (23.6%), Gram negative IE in 6 (8.3%) and MDRGN NIE in 3 (3.1%) cases. All patients (pt1: male 24, pt2: female 67 and pt3: male 71 years old) were hospitalized for a mean of one month and had a central venous catheter in place for at least one week before the diagnosis of IE. All patients had right-sided IE with pulmonary emboli. No cardiac surgery was performed. Pt1 was treated by meropenem plus clolistin (MpC) plus gentamicin for Klebsiella pneumonia KPC IE. Pt2 and Pt3 were successfully given MpC for Enterobacter cloacae MDR IE. Close clinical monitoring of maximum dosing was done. Conclusions MDRGN NIE emerges affecting patients with long hospital and ICU stay, central venous catheters and underlying conditions. Medical treatment options are limited as susceptible antimicrobials like colistin do not sufficiently penetrate into the cardiac tissues. Combination treatment at the maximum dosing is the current treatment as "there are no new drugs for those bad bags".

POSTER NUMBER: 19
PAPER NUMBER: 131

EXPERIENCE WITH DAPTOMYCIN IN THE TREATMENT OF INFECTIVE ENDOCARDITIS.

Scanlon N[2] Prior A R[1], O'Gorman J[1], Lynch M[1], and Hannan M[1]
[1] Department of Clinical Microbiology, Mater Misericordiae University Hospital. [2]Pharmacy Department, Mater Misericordiae University Hospital, Dublin Ireland

Background

Daptomycin is a rapidly cidal antimicrobial agent with proven efficacy in right-sided staphylococcal Infective Endocarditis (IE). Clinical trial experience with daptomycin in the treatment of left-sided IE of staphylococcal origin is limited and results in poorer outcomes when compared with Right-sided disease. Experience with daptomycin in enterococcal IE is even more limited. Vancomycin remains the standard treatment in Gram positive infection resistant to beta-lactams. However in current clinical practice the need for alternative therapies for IE is even greater given the slowly-cidal nature of vancomycin, concerns about its efficacy against isolates with MICs at the higher end of the susceptible range, its associated nephrotoxicity and issues with patient intolerance on prolonged treatment.

Objectives

To examine outcomes following daptomycin use against resistant gram-positive isolates in both L and R-sided IE.

Methods

All patients who received daptomycin since Jan 2010 for IE were identified from pharmacy records.

Results

Four patients received daptomycin for the treatment of IE; three patients had L-sided, and one R-sided IE. Two patients were treated for staphylococcal infection (1 MRSA and 1 Coagulase Negative staphylococcus), both also were also colonized with VRE. The remaining two patients had culture negative IE and received daptomycin due to intolerance to vancomycin.

All four patients recovered well and no vegetations were seen on TOE at the end of treatment. No abnormalities in laboratory CK values or evidence of musculoskeletal toxicity was seen.

Conclusion

Daptomycin proved effective in the treatment of staphylococcal and culture negative IE. While superiority of daptomycin over vancomycin has not yet been proven, daptomycin was an effective alternative in difficult to treat infections and in patients unable to tolerate vancomycin.

POSTER NUMBER: 20 PAPER NUMBER: 117	VERTEBRAL OSTEOMYELITIS (VO) ASSOCIATED WITH INFECTIVE ENDOCARDITIS (IE): CHARACTERISTICS ANALYZED WITHIN IE2008, A ONE-YEAR POPULATION-BASED SURVEY OF IE
C. Fery-Blanco, P. Tattevin, C. Chirouze, M. Revest, V. Le Moing, T. Doco-Lecompte, X. Duval, and B. Hoen, on behalf of the AEPEI Study Group on Infective Endocarditis	Background VO is common during IE and it impacts patient care. Our objectives were to describe the characteristics of IE-associated VO and to search for specific patterns of VO-associated IE. Methods This study was nested in IE2008, a one-year population-based prospective survey of IE that was conducted in France. The diagnosis of VO was confirmed when MRI and/or CT findings were unequivocal. Cases of VO-associated IE were described and compared to those without VO. Results Of the 614 patients with Duke-Li definite IE, 44 (7.2%, 38 M, 6 F, mean age 64.8 years) had concomitant VO. VO was revealed by back pain in 29 patients (65.9%) and was diagnosed before IE in 25 patients (56.8%). Locations of VO were as follows: lumbar (n=22), thoracic (n=9), cervical (n=1), and multiple (n=12). Causative microorganisms were distributed as follows: Staphylococcus aureus (n=15), group D streptococci (n=12), Enterococcus faecalis (n=6), coagulase negative staphylococci (n=5), oral streptococci (n=4), Streptococcus pneumoniae (n=1), and Lactobacillus (n=1). The distribution of causative microorganisms was significantly different (p=0.005) between groups, with more group D streptococci (27.3% vs. 11.8%, p = 0.004) in VO patients. There was a trend towards a higher proportion of men (86.4% vs. 74.4%, p = 0.07) in VO patients. No differences were found for all other compared variables (age, intracardiac devices, prosthetic valves, location of IE, and lethality). Conclusions VO was relatively frequent in and often inaugural of IE. It developed more frequently in men and in the course of group D streptococcal IE.

POSTER NUMBER: 21
PAPER NUMBER: 72

WHEN IT'S NOT AS CLEANLY CUT AS IT SEEMS: A CASE SERIES OF INFECTIVE ENDOCARDITIS IN INJECTING DRUG USERS

Krishnaswamy S[1,2], Woolley I[1], and Korman A[1]

[1] Infectious Diseases Department, Southern Health, 246 Clayton Road, Clayton 3168, Victoria

[2] «Current Affiliation: Infectious Diseases Dept, Alfred Hospital, Commercial Rd, Prahran. Contact S.Krishnaswamy@alfred.org.au, 9076 2000.

Objective

There is a paucity of published literature reflecting the Australian experience of infective endocarditis (IE) in injecting drug users (IDU). Through this retrospective chart review, we describe the clinical characteristics, microbiology and outcomes of IE in adult IDU admitted to our healthcare network from 1997-2008.

Results

50 patients accounted for 64 admissions.

On admission, septic embolisation was present in 63.1%, renal failure in 36%, altered mental state in 31.2%, and cardiac failure in 14%. 6.3% had the classic triad of fever, murmur and peripheral stigmata.

37.8% had left-sided cardiac involvement. 80% of infections were due to Staphylococcus aureus, 8% to Streptococcus species, and 8% were culture negative. 24 admissions (37.5%) occurred in 14 patients with previous IE, 67% for new infections.

The average acute inpatient stay was 36 days (1-127). Intensive care unit admission (ICU) was required in 54.7% of admissions. Valve surgery was performed in 23.4%, 40% emergently.

In hospital mortality was 12.5%. 64% of patients completed treatment. 14% were discharged to the Hospital in the Home Program (HITH) with only half completing treatment on HITH.

Conclusions

Our review suggests IE in IDU may not be as benign as classically thought with considerable morbidity and a mortality rate of 14%. Almost all presented with established complications and more than 50% required ICU admission. Cardiothoracic surgery was performed in almost a quarter of cases and subsequent infection of the prosthesis was frequent. Only two-thirds of patients completed their prescribed treatment course overall, with almost 60% remaining in hospital to do so.

POSTER NUMBER: 22 PAPER NUMBER: 54	CHOICE OF VALVE IN ENDOCARDITIS? MECHANICAL V/S BIOPROSTHETIC - A CONTINUED CHALLENGE
Kumar, J. CT Surgery Geelong Hospital	Background It remains unknown whether there is any clinical advantage to the use of either a bioprosthetic or mechanical valve for patients with native or prosthetic valve endocarditis. The question addressed was 'In patients undergoing a surgery for endocarditis, is a biological valve or mechanical valve superior for achieving long-term low rates of re-infection/ relapse? Current guidelines from American College of Cardiology/American Heart Association (ACC/AHA) are not specific to patients with infective endocarditis, hence the need to review the literature related to this. Methods Altogether more than 50 papers were found, of which 6 represented the best evidence to answer this clinical question. The authors, journal, date and country of publication, patient group studied, study type, relevant outcomes and results of these papers are presented. Results Out of the studies that specifically compared the outcomes of the two valves, 50% concluded there to be no significant difference and 50% recommended a mechanical valve for lower recurrence and higher survival rates. Comparative studies showed , in mechanical valve replacement the average endocarditis recurrence rate ranged from approximately 3 to 16% and in biological valves from approximately 4 to 22%. The Euro Heart Survey found that 63% of valve replacements were mechanical, and only 21% bioprosthetic. Conclusions As no statistical difference was seen in survival, re-infection, relapse and re-operation rates between the two valves, the valve used will depend on the surgeon's choice, patient's choice, age and co-morbidities.

POSTER NUMBER: 23 PAPER NUMBER: 53	CAN ECHOCARDIOGRAPHY RELIABLY DEFINE THE EMBOLIC RISK IN ALL ENDOCARDITIS PATIENTS?
Labib DO[1], Ashour ZA[1], Sorour KA[1], Rizk HH[1] Cardiology department, Cairo University Hospital, Egypt Contact data: Dina Osama Labib +20106192134 dinamlab@gmail.com	Background Embolization is a devastating complication of infective endocarditis (IE). Previous studies that attempted to identify baseline predictors of embolization and mortality in IE led to conflicting results. Objectives To assess the value of different echocardiographic variables in predicting embolization and in-hospital mortality in patients with IE. Methods This prospective study recruited 99 patients with definite left-sided IE. TTE was performed in all patients. TEE was performed in 62.6% of patients. Results Embolization occurred in 40.4% of patients during index hospitalization. Female gender was a highly significant risk factor for embolization ($p = 0.003$). The only echocardiographic variable useful in predicting embolization was vegetation length ($p = 0.04$). Using a cut-off value of 2.095 cm, the sensitivity for predicting embolization was 50%, specificity 69.1% and positive predictive value (PPV) 52.8%. Vegetation length was predictive of embolization in females ($p = 0.003$), but not in males and in native valve endocarditis (NVE) ($p = 0.05$), but not in prosthetic valve endocarditis (PVE). Additionally, vegetation length could predict embolization in Streptococcal IE ($p=0.03$), but not in Staphylococcal IE. The overall in-hospital mortality rate was 41.8%. The only echocardiographic parameter useful in predicting mortality was the presence of valvular stenosis ($p = 0.05$). Conclusions A more aggressive therapeutic strategy, including early surgery, may be needed in female patients with IE, particularly with long vegetations, irrespective of the degree of valve destruction or other factors, in order to avoid embolization. Vegetation length may not be relied upon to predict embolization in PVE.

POSTER NUMBER: 24 PAPER NUMBER: 121	MULTINATIONAL CLINICAL EXPERIENCE WITH HIGH DOSE DAPTOMYCIN FOR THE TREATMENT OF NATIVE VALVE ENDOCARDITIS (NVE)
Donald P. Levine[1], Riccardo Utili[2], Emanuele Durante-Mangoni[2], Kenneth C. Lamp[3], MinJung Yoon[3], Ricardo L. Chaves[4] [1]Wayne State University, Internal Medicine, Detroit, US; [2]2nd University of Naples, Monaldi Hospital, Naples, Italy; [3]Cubist Pharmaceuticals, Lexington, US; [4]Novartis Pharma AG, Basel, Switzerland	Objectives Post-marketing daptomycin data from the US, Europe, Latin America, India and Russia were evaluated for clinical outcomes Methods Patients with a diagnosis of gram-positive NVE were identified in two multicenter observational registries (CORE 2007-9 and EU-CORE 2006-2010). Clinical outcomes were evaluated and a multivariate analysis examined the effects of relevant patient characteristics. Results Of 6448 patients in the registries, 498 (8%) met inclusion criteria, 88 (18%) patients received ≥ 8 mg/kg; 338 (68%) received 6-<8 mg/kg and 72 (14%) received <6 mg/kg; 63% male, 43% ≥ 66 years, 72% left-sided, 34% S. aureus. Overall, outcomes (success [cured+improved], failure, nonevaluable, %) by dose were: ≥ 8 (80, 3, 17); 6-<8 (76, 11, 13); and <6 (63, 13, 25). The discontinuation rate (5.8% overall) and incidence of CPK/musculoskeletal AEs (2.6% overall) were similar for all dose groups. Multivariate analysis indicated that the following factors were significantly associated with the incidence of treatment failure: initial dose (≥ 8 compared to < 6 mg/kg) (odds ratio [OR] =0.2; 95% confidence interval [CI], 0.04–0.84), any adverse event (OR =10.3; 95% CI, 4.76-22.14), outpatient daptomycin treatment (OR = 0.10; 95% CI, 0.02-0.50), left-sided endocarditis (OR =4.0; 95% CI, 1.38-11.78) and heart valve surgery (OR =0.2; 95% CI, 0.06-0.52). Conclusions Patients with higher daptomycin doses, outpatient treatment and heart valve surgery had lower failure rates while those with adverse events and left-sided endocarditis failed more frequently.

POSTER NUMBER: 25 PAPER NUMBER: 119	INFECTIVE ENDOCARDITIS CAUSED BY CELLULOMONAS SPP. IN AN INTRAVENOUS DRUG USER - CASE REPORT
Mateja Logar, Tatjana Lejko Zupanc Department of infectious diseases, University Medical Center Ljubljana, Japljeva 2, 1525 Ljubljana Slovenia	Introduction Infective endocarditis is one of the most severe complications of parenteral drug abuse (IVDU). Overall, Staphylococcus aureus is the most common etiological agent. Cellulomonas spp. is aerobic or facultatively anaerobic bacteria from the family Cellulomonadaceae. They can be found in the soil and water. Case report A 30-years old man with a history of IVDU and chronic hepatitis C was admitted to the hospital because of left ankle arthralgias, general weakness and weight loss. He did not have fever prior to the admission. A physical examination revealed a diastolic murmur left to the sternum. Blood cultures were taken and the empirical treatment with cefotaxime was started. On the next day TTE revealed bicuspid aortic valve with vegetation on the posterior aortic leaflet and sever aortic regurgitation. The patient was transferred to our hospital. Cellulomonas spp. was isolated from 2 sets of blood cultures. We added gentamicin. After one month of antibiotic therapy (14 days gentamicin) TTE showed sever aortic regurgitation with large vegetation, kissing vegetation and probable abscess on the posterior mitral leaflet. The course of disease was complicated with septic embolism and mycotic aneurism of arteria poplitea. Treatment was prolonged to five weeks. Cardiac decompensation progressed and cardiovascular surgery was indicated. Postoperative course was complicated with complete atrio-ventricular block and permanent pace-maker was implanted. Conclusions This is the first report of infective endocarditis in IVDU complicated with peripheral trombembolism caused by Cellulomonas spp. IVDU are at greater risk for infections with Cellulomonas because of parenteral use of contaminated water.

POSTER NUMBER: 26 PAPER NUMBER: 101	AORTIC PROSTHETIC VALVE FAILURE WITH VENSTRICULAR SEPTAL DEFECT AND RUPTURED CORONARY SINUS OF VALSALVA CAUSED BY INFECTIVE ENDOCARDITIS
Sunga MNS[1,2], Lontoc AN[1,2] [1] Diplomate, Philippine College of Physician [2] Affiliate, Philippine Heart Association Philippine Heart Center, East Avenue, Quezon City, Philippines Cellphone no.: 0011 +63 917 890 0427 Email: anlontoc@yahoo.com	Introduction Infective endocarditis is an infection of the inner surface of the heart that may involve mural endocardium, cardiac valves, or septal defects. Despite recent guidelines, treatment had been a dilemma especially in patients undergoing valve replacement. Case Presentation We present a case of a 45 year old female who was known to have a rheumatic heart disease with severe aortic stenosis. She was diagnosed with infective endocarditis presenting with chronic fever. Blood culture showed Enterobacter sakazakii and Burkholderia cepacia. Because of the persistence of heart failure despite optimal medications, she underwent aortic valve replacement. She was discharged improved. However, she was readmitted due to progressive difficulty of breathing. Echocardiographic findings showed prosthetic valve endocarditis with ruptured coronary sinus of valsalva and subaortic type of ventricular septal defect. After several weeks of antibiotic treatment, redo aortic valve replacement with VSD patch closure was done. She subsequently showed sustained clinical improvement. Conclusion Infective endocarditis remains a therapeutic challenge. If left untreated, it may pose a myriad of post operative dilemmas in patients who will undergo valve replacement.

POSTER NUMBER: 27 PAPER NUMBER: 67	PERICARDIAL ABSCESS: A RARE COMPLICATION OF CRYPOGENIC LIVER ABSCESS
Lontoc AN[1,2] [1] Diplomate, Philippine College of Physician [2] Affiliate, Philippine Heart Association Philippine Heart Center, East Avenue, Quezon City, Philippines Cellphone no.: 0011 +63 917 890 042 7 Email: anlontoc@yahoo.com	Introduction Hepatic abscess is a rare disease with approximately 80% of cases is polymicrobial, 10% is amebic or fungal, and lesser than 10% is unknown or idiopathic. However, complication such as rupture of the hepatic abscess into the pericardial cavity is even rarer. Prompt detection or diagnosis is essential because early management can prevent clinical deterioration that inevitably leads to poor prognosis. Case Presentation We present the case of a 60 year old male who was diagnosed initially with a large left lobe hepatic abscess and subsequently developed massive pericardial effusion. He underwent subxyphoid tube pericardiostomy and ultrasound guided hepatic abscess drainage which both yielded a grossly purulent fluid. Cultures showed no microbial growth. Serologic testing for tuberculosis was negative. He significantly showed sustained clinical improvement with antimicrobial therapy and was discharged on the third week of treatment. Conclusion Delayed treatment of a hepatic abscess may cause serious and atypical complications such as pericardial abscess. High index of suspicion and early diagnosis are crucial to prevent significant morbidity and deleterious consequences.

POSTER NUMBER: 28 PAPER NUMBER: 78	EVALUATION OF THE MORTALITY OF VIRIDANS GROUP STREPTOCOCCI LEFT-SIDED ENDOCARDITIS IN TWO PERIODS: 1984-2000 AND 2001-2009.
Martínez-Marcos FJ, de Alarcón A, Lomas JM, García-Cabrera E, Nourredine M, Ivanova R, Plata A, de la Torre-Lima J, Ruiz J, Reguera JM, Galvez J, Hidalgo-Tenorio C, García-López MV. For the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares de la SAEI.	Background Viridans group streptococci (VGS) endocarditis has received little attention in the literature in recent years. The aim of this study was the evaluation of the changes in mortality during hospitalization in 25 years. Methods Prospective multicenter cohort study (Group for the Study of Cardiovascular Infections of the Andalusian Society of Infectious Diseases in Spain). Two periods (1984-2000 versus 2001-2009) were compared. Results In the first period, VGS were the most frequently isolated pathogens (94 of 418 episodes of LSE; 22.5%), but in the second one Staphylococcus aureus were more frequent (20.7% vs 18.9% of VGS). There were no differences in both periods in terms of: duration of symptoms prior to diagnosis, percentage of VGS strains with a penicillin MIC >0.5 mg/L, prosthetic LSE, development of heart failure, neurological complications, septic shock, or treatment with aminoglycosides. However, compared with first period, patients with VGS LSE in the second period had less rheumatic valve disease (20% vs. 44.7%; p<0,001), were older (mean age: 57 vs 47 years; p<0.001), had more chronic diseases (55.2% vs 40.4%; p=0.03), a higher score on the Charlson Index (mean: 2.1 vs 1.2 points; p=0.008), and were more likely to develop acute renal failure (21.9% vs 10.6%; p=0.03). They also experienced more perivalvular complications (30.5% vs 14.9%; p=0.009), had a higher score on the EuroSCORE index (mean additive score sum: 8.6 vs 5.9; p=0.001), and underwent valve surgery more often (40% vs 22.3%; p=0.008). In-hospital mortality of these IE was 7.4% during the first period and 14.3% in the second one (p=0.09). Conclusions Despite advances in diagnostic techniques and treatment of endocarditis in recent years, the mortality of VGS LSE increased twice in the second study period. The increasing age and comorbidity of patients with VGS LSE are the major factors in this increase of mortality.

POSTER NUMBER: 29 PAPER NUMBER: 120	ROUTINE BRAIN CT ANGIOGRAPHY IN INFECTIVE ENDOCARDITIS:FINDINGS AND IMPACT ON TREATMENT DECISIONS
Meshaal M S[1], Kassem Hussien H[1], ElAmragy A A[1] , Arousy W A[1], Elguindy M S[1], Saeed A S[2], and Rizk H H[1] [1] Department of cardiovascular Medicine (cardiac tertiary care center), Cairo University, [2] Radiology Department, Cairo University. Egypt.	Introduction Neurovascular complications are common with infective endocarditis (IE) and can be associated with poor outcome. However, routine screening by CT and CT angiography (CTA) is not standard practice. Methods We prospectively included 31 consecutive patients with duke definite left sided IE. All had routine brain CTA within 2 weeks of admission. CTA was done on Light Speed four-detector row CT using 100 cc non-ionic contrast. Patients with intracranial aneurysms (IA) were referred for conventional cerebral angiography followed by clipping or coiling if indicated. The indications for clipping/coiling were either ruptured aneurysms or aneurysms ≥7mm. Results Mean age was 27.4±8.8 years. Sixteen (51.6 %) were females. S.aureus was the commonest organism (32.3%). Five patients (16%) developed IE on normal heart & 11 patients (35.5%) had underlying prosthetic valves. Cardiac surgery was indicated in 24 (77.4%). Findings of brain CTA: • 18 patients had evidence of brain embolization on CTA • 9 of those had no clinical neurological deficit • 7 patients had IA, of them 6 were silent Brain CTA influenced the management of 8 patients (25.8%), only 1 had neurological deficit: • Valve replacement by biological prosthesis in 2 patients with IA • Mitral repair and stand-by biological prosthesis in one patient with IA • Withholding anticoagulation in one patient with prosthetic valve and silent subdural hematoma • Coiling/clipping of IA in 4 patients Conclusion Brain CTA results in changes in treatment plan in a significant proportion of patients with IE even those without clinically evident neurological disease.

POSTER NUMBER: 30 PAPER NUMBER: 95	FUNGAL ENDOCARDITIS CLINICAL CHARACTERISTICS AND RISK FACTORS; A PROSPECTIVE COHORT
Meshaal M S[1], Kassem Hussien H[1], Chu V H[2], ElAmragy A A[1] ,ElArousy W A[1], ElKholy A A[3], and Rizk H H[1] [1] Department of cardiovascular Medicine, Cairo University, [2] Duke University Medical Center, [3] Clinical Pathology Department, Cairo University. Egypt.	Introduction Fungal endocarditis (FE) is a disease of complex morbidity & poor outcome. Understanding its clinical & demographic characteristics may help improve diagnosis, treatment & outcome. Method We included all patients with definite endocarditis (167) according to modified Duke Criteria who were referred between January 2005 and December 2009. FE group was compared to non fungal endocarditis group. FE was diagnosed when a fungus was isolated. In two cases, Aspergillus was suspected based on detecting galactomannan antigen in serum using "Platelia Aspergillus EIA". Results Out of 167 endocarditis patients, 23 (13.8%) had FE. The most prevalent was Aspergillus, diagnosed in 16 cases (69.6%), followed by Candida in 6 (26.1%) & penicillium in one. Majority of FE cases were healthcare related (82%). Complications were frequent (95.7%) and mortality was high (65.2%). Following features were significantly higher in FE group: • Underlying prosthetic valve; 29/144 patients (20.1%) in bacterial IE vs. 15/23 (75%) in FE, p<0.001 • Negative blood culture; 73/144 patients (50.7%) vs. 18/23 (78.3%), p= 0.006 • Affected peripheral pulse; 22/144 patients (15.3%) vs. 11/23(47.8%), p=0.001 • Acute limb ischemia; 7/144 patients (4.9%) vs. 11/23(47.8%), p<0.001 • Heart failure; 67/144 (54%) vs. 16/23 (69.6%), p=0.04 • In hospital death; 51/144 (35.4%) vs. 15/23 (65.2%), p=0.007 Conclusion This study reports increased incidence of FE, particularly aspergillus. Important risk factors are the presence of prosthetic valves or health-care related procedures. Fungal IE should be suspected in the presence of these risk factors as well as major limb embolization and negative blood cultures.

POSTER NUMBER: 31 PAPER NUMBER: 127	LONG-TERM SURVIVAL AFTER SURGERY FOR AORTIC VALVE ACUTE INFECTIVE ENDOCARDITIS: 15-YEAR COMPARISON OF TISSUE VALVES, MECHANICAL PROSTHESES AND HOMOGRAFTS
Mestres CA[1], Calcara I[1], Quintana E[1], del Río A[2], Marco F[3], García de la María C[3], Cervera C[2], Moreno A[2], Cartaña R[1], Ninot S[1], Pomar JL[1], Mulet J[1], Miró JM[2] Departments of Cardiovascular Surgery[1], Infectious Diseases[2] and Microbiology[3]. Hospital Clínico-IDIBAPS. University of Barcelona, Barcelona (Spain)	Objective Long-term results after surgery for acute infective endocarditis (AIE) related to replacement device remain unclear. We retrospectively analyzed outcomes of surgically treated aortic AIE comparing 15-year mortality of three valves: tissue and mechanical prostheses and homografts. Methods AIE patients included in our Institutional prospective database. Long-term survival according to three different devices. Predictors of early- and long-term survival analyzed with regression model. Follow-up information from clinic visits and telephone calls to patients and physicians. Results Between January 1995 and August 2010, 148 consecutive adult patients with AIE, 117 (79.05%) native aortic and 31 (20.94%) prosthetic aortic valves underwent surgery; 107 (72.30%) men and 41 (27.70%) female, median age 56.40±15.8 years; median logistic EuroSCORE 28.56%±22.28. There were 53 mechanical, 72 tissue valves and homografts and 20 isolated homograft implants. Streptococcus species (34.4%) was the most frequent micro-organism. Including hospital mortality, patients with tissue valves had lower 15-year mortality risk than with mechanical prosthesis and homografts. Homograft implantation had worst prognosis. Among predictive factors in long-term survival logistic EuroSCORE (p=0.000), NYHA class (p=0.000), liver insufficiency (p=0.026), pericardial effusion (p=0.012), pulmonary hypertension (p=0.000) and major complications (fistula, abscess, ventricular septal defect) (p=0.012) were identified. Conclusion Bioprostheses in aortic AIE have best results of survival including hospital mortality. Search of predictive factors led to some results demonstrating an important role on long-term results. Preoperative status, co-morbidity, anatomical conditions play a role in predicting surgical success in the long-term. Preoperative risk stratification may help in identifying patients with higher risk of mortality.

POSTER NUMBER: 32 PAPER NUMBER: 98	FAILURE OF AMPICILLIN (AMP) PLUS CEFTRIAXONE (CRO) FOR TREATING ENTEROCOCCUS FAECALIS (EF) ENDOCARDITIS (IE). REPORT OF THREE CASES.
J.M. MIRO [1], A. DEL RIO [1], C. GARCIA DE LA MARIA [2], C. CERVERA [1], Y. ARMERO [2], X. CASTAÑEDA [1], CA. MESTRES [3], JM PERICAS [1] M. ALMELA [2], C. FALCES [4], D. SOY [5], MT JIMENEZ DE ANTA [2], F. MARCO [2], A. MORENO [1] AND THE HOSPITAL CLINIC ENDOCARDITIS WORKING GROUP. [1] Infectious Diseases Service; [2] Microbiology Service; [3] Cardiac Surgery Department; [4] Cardiology Service; [5] Pharmacy Department. Hospital Clínic – IDIBAPS, University of Barcelona, Barcelona (Spain).	Background Currently, the combination of AMP plus CRO is widely used in Spain for treating patients with EF IE with/out high level aminoglycoside resistance (HLAR). This study describes three relapses after the treatment with IV AMP (2 g/4 h) plus IV CRO (2 h/12 h). Methods Case series of EF IE with definite diagnosis (Duke criteria). Results There were 3 relapses (9%; 95% confidence interval 3.2%-24.2%) among the 32 patients treated between 2000 and 2010. First relapse: 65 yr old man with advanced liver cirrhosis (Child C stage) who had an aortic native valve non-HLAR EF IE treated during six weeks. The patient relapsed 3 weeks later and he was re-treated with daptomycin 10 mg/kg QD during 6 weeks. He relapsed again and died. Second relapse: 51 yr old man with advanced liver cirrhosis (Child B stage) who had an aortic native valve non-HLAR EF IE treated during 4 weeks. Relapse occurred 4 weeks later. He was retreated with AMP (6 weeks) plus gentamicin (4 weeks). Blood cultures 42 days after therapy were negative. Third relapse: 82 yr old man with disseminated prostate cancer and a pacemaker who developed a native mitral non-HLAR EF IE that was treated 6 weeks. After being re-treated, life-long suppressive oral amoxicillin therapy was given because of his pacemaker could not be removed. Conclusions AMP plus CRO treatment failure rate is low. There is a need of new agents when this combination or AMP plus gentamicin failed or can not be given.

POSTER NUMBER: 33
PAPER NUMBER: 69

EFFICACY OF VANCOMYCIN (VAN) DOSING ADJUSTED TO TROUGH SERUM LEVELS OF 15-20 MG/L IN THE TREATMENT OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) EXPERIMENTAL ENDOCARDITIS (EE) WITH TWO DIFFERENT VANCOMYCIN MICS (0.5 OR 2 MG/L).

Miro Jm[1,6] Garcia De La Maria C[2,6], Castañeda X[1,6], Armero Y[2,6], Pericas Jm[1,6], Soy D[3,6], Moreno A[1,6], Del Rio A[1,6], Almela M[2,6], Mestres Ca[4,6], Cervera C[1,6], Falces C[5,6], Ninot S[4,6], Gatell Jm[1,6], Jimenez De Anta Mt[2,6], Marco F[2,6],The Hospital Clinic Endocarditis Working Group.

[1]Infectious Diseases Service

[2]Microbiology Service

[3]Pharmacy Department

[4]Cardiac Surgery Department

[5]Cardiology Service

[6] Hospital Clínic – IDIBAPS, University of Barcelona

Objective

To know whether optimizing the Van dosage to reach a Cmin between 15-20 mg/L (2011 IDSA Guidelines) enhances Van efficacy in the treatment of MRSA EE with two different Van MICs.

Methods

24 h after formation of catheter-induced aortic valve vegetations, an inoculum of 10^5-10^6 cfu/mL of MRSA-196 or MRSA-277 were injected intravenously. 16h post-infection the animals were treated for 48h with IV Van (1g q12h; 1.25g q8h or 1g q6h) given with a computer-controlled infusion pump system simulating human serum kinetics. Treated rabbits were sacrificed after six drug half lifes.

Results

Van MIC/MBCs were tested by microdilution method. Cmax and Cmin levels for IV Van 1 g q12 h (standard dose [SD]) or Van 1.25 g q8h and 1 g q6h (high dose [HD]) were: 56/6 mg/L, 96/17 and 60/20 mg/L respectively.

Treatment group	#sterile veg/ #total (%)	Median (IQR) log cfu/g veg	AUC/MIC
MRSA-196			
Van MIC/MBC =0.5/8			
Control	0/15 (0)	8.8 (7.8- 9.5)	-/-
SD-VAN(1g/12h)	6/15 (40)[a]	2.6 (0- 4.5)[b]	299/0.5 = 598
HD-VAN(1.25g/8h)	10/16 (62)[a]	0 (0- 2.8)[b]	621/0.5 = 1242
MRSA-277			
Van MIC/MBC =2/2			
Control	0/15 (0)	7.4 (6- 8.3)	-/-
SD-VAN(1g/12h)	5/15 (33)[c]	2 (0- 5.6)[d]	299/2 = 149.5
HD-VAN(1g/6h)	8/16 (50)[c]	1 (0- 2.2)[d]	666/2 = 333

[a]P=0.29; [b]P=0.38; [c]P=0.35; [d]P=0.37.

Conclusions

After two days of Van therapy in a MRSA EE model with two different Van MICs, the sterilization rate and the reduction of density of bacteria within the vegetations did not improve adjusting Van dosage to Cmin levels between 15-20 mg/L.

POSTER NUMBER: 34 PAPER NUMBER: 76	WAITEMATA DHB INFECTIVE ENDOCARDITIS AUDIT A 5 YEAR CLINICAL EXPERIENCE WITH INFECTIVE ENDOCARDITIS IN AUCKLAND- COMPARISON WITH ICE STUDY.
A Mustafa, H. Bhally, K. Read Infectious Dieseases Department Waitemata DHB	Background The epidemiological profile of IE, especially in industrialised countries has changed recently, as evident in "International Collaboration on Endocarditis- ICE" trial, that included New Zealand hospitals. We undertook an analysis to compare our local data. Methods A retrospective review of electronic medical records of IE cases admitted between 06/2005 to 06/2010 to North Shore and Waitakere Hospitals was conducted. Adult patients with definite IE, using modified Duke Criteria, were included. Various patient characteristics and outcomes were analysed. Results Eighty seven definite IE were identified from 179 records. Males (71%) with median age 63 yrs dominated study group. Native valve IE was seen in 63%. Predisposing factors included prosthetic valves (37%), pre-existing structural heart defect 19%, intravenous drug abuse (9%), and recent dental intervention (8%). Anaemia (72%) and vascular phenomena (40%) were common at presentation. Mean ESR and CRP levels were 65 and 127 respectively. Vegetations were detected in 40% and 68% on transthoracic and transoesophageal echocardiograms respectively. Aortic (34%) and mitral (30%) valves were commonly affected. Streptococcus viridans group (30%), Staphylococcus aureus (SA) (25%) and Enterococci (19%) were commonest pathogens. Complications occurred in 33 (38%) including regurgitation (27 cases), perforation (5), abscess (4). Surgical intervention was common in complicated cases (67%). Overall 30 day mortality was 13% but SA mortality was 36%. Conclusion Compared to ICE- In our population of slightly older males, Streptococcus viridans group remains commonest cause of IE closely followed by SA and Enterococcus sp. Aortic valve involvement was more common. IE mortality remains high, especially with SA.

POSTER NUMBER: 35 PAPER NUMBER: 85	STAPHYLOCOCCUS LUGDUNENSIS: A RARE CAUSE OF COAGULASE-NEGATIVE STAPHYLOCOCCAL INFECTIVE ENDOCARDITIS IN A TERTIARY REFERRAL CENTRE
Pikelj Pecnik, A	Objectives Coagulase-negative staphylococci are common colonizers of the human skin and are therefore frequently isolated from different human samples. They cause about 1-5 % of all native–valve endocarditis and are the most common cause of this serious infection in patients with prosthetic valves. Staphylococcus lugdunensis is a rarely isolated species, which can cause destructive endocarditis. Therefore we aim to estimate the frequency and clinical course of the Staphylococcus lugdunensis endocarditis in a tertiary referral centre in Slovenia. Methods We retrospectively searched our database and identified four cases of definitive Staphylococcus lugdunensis endocarditis over a period of eleven years (2000-2011). All identified cases met the definition by the Duke criteria. We examined the clinical course using standard clinical measures. Results The mean age of individuals was 71,5 years. Three of them were women. Native–valve endocarditis was evident in two patients, whereas two patients had infection of indwelling medical devices, one on pacemaker leads and the second on the prosthetic aortic valve. Three cases presented with the left–sided endocarditis. All four patients underwent cardiac surgery procedure, and one recovered. Conclusion Endocarditis caused by Staphylococcus lugdunensis is rare and represents only 9,3 % of all episodes of well defined infective endocarditis caused by coagulase–negative staphylococci in our department. As published in the literature, the destructive course of this infection was seen in our sample along with the high mortality rate. All subjects needed valve replacement.

POSTER NUMBER: 36
PAPER NUMBER: 125

PROSTHETIC VALVE ENDOCARDITIS WITHOUT SURGERY

Submitted by
Dr Cesar Arístides De Alarcón

Dr Antonio Plata, Dr Jose Maria Reguera, Dr Jose M Lomas-Cabeza, Dr Francisco Martinez-Marcos, Dr Javier de la Torre Lima, Dra. Josefa Ruiz, Dr Juan Galvez-Acebal, Dra. Radka Ivanova, Dra. Carmen Hidalgo-Tenorio, Dr. Aristides de Alarcon
Andalusian Infectious Diseases Society Endocarditis Study Group

Plata, A. HRU Carlos Haya

Objectives

Analysis of the prosthetic valve endocarditis (PVE) without surgery in a endocarditis serie to know the characteristic, mortality factors and surgery decisions

Methods

We analyzed all PVE without surgery from an andalusian serie (South of Spain) since 1984 to 2009. Patients were visited for the same physician group along the years.

Results: From 1240 endocarditis 261 (21%) were prosthetics and 140 (53%) weren´t treated surgically

Median age: 61.8±14 years, Affected valvula: Aortic 45%, Mitral 45%, Aorticmitral 10%. Charlson index by age 4.44±2.99. 45 EPE (32.1%) and 95 (67.9%) LPE.

Aetiology: Coagulase negative Staphylococcus: 25,2%, Streptococcus spp 25%, Enterococcus faecalis 14% and S. aureus 9% and severe complications in echocardiography 35%.

Median Euroscore log: 34.3±22%. Surgical decision: 55.4% were not operated because they had a good pronostic, 25% were presented for the medical team but rejected for the surgical, 19.4% weren´t presented to surgery (very important comorbilities, terminal status…)

Glotal mortality: 33.6% (35.5% EPE, 32.6% en LPE). Mortality and surgical decision: 11% in patiens without surgery for good pronostic, 51% in presented but rejected and 73% in not presented.

Mortality factors with stadistical signification (both EPE and LPE): Staphylococcus (aureus/coagulase negative), Charlson>4, cancer, severe complications in echocardiography, heart failure III or IV, embolism, acute renal failure and septic shock. The relation between mortality and surgical decisition had stadistical signification too.

Conclusions

- Both EPE and LPE without surgery have high mortality (>30%)
- Staphiloccus, echocardiographic complications and heart failure III or IV are mortality relationated. We must try surgery if this is possible
- In our serie there is a good relation between surgical decision and mortality. We think is necessary medical-surgical team "especialized" in endocarditis to take the most correct decision

POSTER NUMBER: 37 PAPER NUMBER: 107	SUCCESSFUL TREATMENT OF METHICILLIN-RESISTANT S. AUREUS (MRSA) SMALL COLONY VARIANT (SCV) LEFT VENTRICULAR ASSIST DEVICE (LVAD) INFECTION
Seville MT[1], Kusne S[1], Arabia FA[1], Maduka-Ezeh AN[2], Patel R[2] [1]Mayo Clinic in Arizona, Phoenix, AZ, USA, [2]Mayo Clinic, Rochester, MN, USA Presenting Author: Maria Teresa Seville, M.D. Mayo Clinic in Arizona Division of Infectious Diseases 5777 E. Mayo Boulevard Phoenix, Arizona 85054 USA Email: Seville.teresa@mayo.edu Phone: 1-480-342-0115 Fax: 1-480-342-2324	Objective To present a case of ventricular assist device infection due to a small colony variant of MRSA. Methods Retrospective review of the medical record Results A 35 year old woman with ischemic cardiomyopathy had a tricuspid valve (TV) replacement and HeartMate II LVAD placed as a bridge to transplant. MRSA bacteremia developed one month later believed to be central line-related. Defibrillator lead and TV endocarditis was diagnosed 2 months later. Recurrent episodes of MRSA bacteremia and LVAD pocket infection ensued over the next year despite prolonged combination antibiotic therapy. LVAD and defibrillator removal, TV replacement, and placement of a Thoratec paracorporeal ventricular assist device (PVAD)/LVAD were performed. Multiple cultures grew S. aureus but inadequate growth precluded susceptibility testing. Subsequent work-up revealed the organism as a MRSA SCV. The patient has remained free of MRSA infection over 1 year since surgery. Conclusion MRSA SCV LVAD infection was treated successfully through LVAD revision.

POSTER NUMBER: 38 PAPER NUMBER: 87	B-TYPE NATRIURETIC PEPTIDE (BNP) AS A PROGNOSTIC FACTOR FOR ENDOCARDITIS
Siciliano RF[1], Strabelli TMV[1], Gualandro DM1, Seguro LFBC[1], Goldstein P[1], Arias V[1], Mansur AJ[1] and Oliveira Jr MT[1]. [1] Heart Institute (InCor) University of Sao Paulo Medical School, Sao Paulo, Brazil	Background B-type natriuretic peptide (BNP) was reported as a prognostic serum marker in infective endocarditis (IE). Objective The purpose of this study was to identify clinical, laboratory and radiologic predictors of mortality in endocarditis patients at a cardiologic emergency service. Method Between July 2009 and January 2011, consecutive patients with endocarditis admitted to the emergency room were prospectively enrolled. Patients were included if they met possible or definite endocarditis Duke's criteria. The association between elevated BNP and in-hospital death was determined. Results Of eight three patients, 53 were male (64%), 30 female (36%), the mean age was 52.6±19.1 years, 16.9% had left ventricle ejection fraction < 55%, 32.1% moderate to severe aortic regurgitation and 35.4% moderate to severe mitral regurgitation. BNP > 200 pg/mL (p=0.042) was associated with death as well as creatinine > 1.0 mg/dL (p=0.036), staphylococcal IE (p<0,001) presence of dyspnoea (p=0.043) and sepsis at admission (p=0.001). Conclusion Admission elevated BNP levels were related to fatal outcomes in IE patients.

POSTER NUMBER: 39
PAPER NUMBER: 91

DIAGNOSTICS OF AORTIC VASCULAR PROSTHESIS INFECTION USING PETSCAN

Siciliano RF[1], Strabelli TMV[1], Dias RR[1], Espirito Santo CV[1], Bueno FL[1], Camargo RA[1], Costa JDJr.[1] and Soares JJr[1]
1-Heart Institute (InCor) University of Sao Paulo Medical School, Sao Paulo, Brazil

Objective
Report three patients with aortic graft infection in which the PETscan contributed to the diagnosis.

Case report
Case 1: 42 year-old man underwent to thoracoabdominal aortic surgery with polyester prosthesis. In 66th postoperative day he presented fever and B. cepacia bacteremia. PETscan showed focal uptake on aortic prosthesis. Empirical antibiotics were started with good clinical response. PETscan repeated at 50th day of treatment showed mild improvement concerning infection foci.

Case 2: 55 year-old man was admitted in severe sepsis 9 months after aorta aneurysm reconstruction with polyester graft. Blood cultures showed S. pneumoniae and focal uptake was seen on PETscan. One month-treatment PETscan showed partial image response and he had good clinical outcome.

Case 3: 70 year-old man was submitted to aorta aneurysm reconstruction with polyester graft. One year after surgical intervention he came to emergency room presenting fever. PETscan showed areas of increased uptake related to the graft infection. Patient's clinical conditions improved with empirical antibiotic therapy. No additional Pet images were done.

Conclusion
The current report suggests the incremental value of PETscan in the noninvasive diagnosis of vascular graft infection. Studies on larger number of patients are needed to further validate the diagnostic performance. Best timing for repeated follow-up PETscan need to be defined.

POSTER NUMBER: 40
PAPER NUMBER: 99

LOW C-REACTIVE PROTEIN (CRP) MAY BE USEFUL TO RULE OUT INFECTIVE ENDOCARDITIS IN EMERGENCY DEPARTMENT PATIENTS

Siciliano RF[1], Strabelli TMV[1], Gualandro DM[1], Seguro LFBC[1], Goldstein P[1], Neres SF[1], Mansur AJ[1] and Oliveira Jr MT[1]
1-Heart Institute (InCor) University of Sao Paulo Medical School, Sao Paulo, Brazil

Objective
To evaluate the contribution of CRP in the diagnosis of infective endocarditis in emergency department patients

Methods
Prospective analysis was performed for consecutive 216 patients with suspected IE admitted to the emergency department between July 2009 and January 2011 Clinical, laboratorial and radiological data obtained at the admission were analyzed. A comparison was made between patients who had the discharge diagnosis of IE according to Duke Criteria and those without endocarditis

Results
Infective endocarditis was diagnosed in 83/216 (38.4%) patients. 52.8% were male, mean age was 52.4 ± 17 years, 94.4% had heart disease at higher risk of endocarditis. Patients with IE had prolonged fever($p=0.012$), hemoglobin <12mg/dL($p=0.004$), CRP >60mg/L ($p<0.001$), hematuria($p=0.018$), proteinuria($p=0.008$), presence of splenomegaly on ultrasound/tomography ($p=0.004$), positive blood cultures($p<0.001$) and vegetations on echocardiography ($p<0.001$). B-type natriuretic peptide, creatinine, leukocyturia, co-morbidities, degree of valvar insufficiency and left ventricular ejection fraction were not associated with to IE diagnosis. Using a cut-off of 15mg/L, the negative predictive value of CRP was 95%.

Conclusions
In crowded emergency departments CRP may add to other clinical and laboratory evaluation and be useful in patients with suspected infective endocarditis. Patients with low CRP could be considered for outpatient investigation.

POSTER NUMBER: 41 PAPER NUMBER: 100	PACEMAKER RELATED INFECTION PRESENTING AS CHRONIC FEVER OF UNKNOWN ORIGIN DETECTED BY 18F-FLUORODEOXYGLUCOSE POSITRON EMISSION TOMOGRAPHY-COMPUTED TOMOGRAPHY (FDG PET-CT).
Siciliano RF[1], Strabelli TMV[1], Costa R[1], Martinelli Filho M[1], Peixoto GL[1], Bueno FL[1] and Soares J Jr[1] 1-Heart Institute (InCor) University of Sao Paulo Medical School, Sao Paulo, Brazil	Background clinical presentation of pacemaker infections is usually acute or subacute. The sensibility of blood cultures and echocardiogram to detect vegetations on intracardiac lead or cardiac valves is low when compared to usual left side endocarditis. Case report A 52-years old male who underwent pacemaker implantation 21 years ago was referred to our hospital with a three years history of fever, chills and loss of weight(13Kg). He was prior admitted to other hospital to investigate a fever of unknown origin and all results were negative. He was discharged with no final diagnosis. At the admission in our hospital he presented with 38.1°C and painless splenomegaly. All six blood cultures remain sterile and transesophageal echocardiogram showed no vegetations. FDG PET/CT showed hypermetabolic activity in lungs presented as nodules at tomography suggesting pulmonary embolization. Ampicilin/oxacilin was introduced. Pacemaker system was removed and the histological examination of leads' vegetations showed mononuclear inflammatory cells. After 30 days of antibiotic therapy FDG PET/CT was repeat and no pulmonary activities was observed. The patient was discharged asymptomatic. Conclusion Ee report a patient presenting with an uncommon chronic pacemaker related infection. Here the FDG PET/CT scan was helpful to diagnosis a lead-dependent infective endocarditis showing the septic pulmonary embolization.

POSTER NUMBER: 42 PAPER NUMBER: 119	USE OF MATRIX-ASSISTED LASER DESORPTION/ IONIZATION - TIME OF FLIGHT(MALDITOF) TECHNOLOGY FOR THE IDENTIFICATION OF ORGANISMS IN PATIENTS UNDERGOING HEART VALVE SURGERY FOR ENDOCARDITIS
Sivaramakrishnan A[1], Warwick S[1], Wragg A[2], Das S[1] Affiliations: 1: Microbiology Department, Barts and the London NHS Trust 2: Cardiology Department, Barts and the London NHS Trust Contact Details: Microbiology Department, Pathology and Pharmacy Building, 80 Newark Street, Whitechapel, London E1. Telephone number: 02032460293 (work)/ 07930960807 (mobile)	Matrix assisted laser desorption/ionization -Time of Flight (MaldiTOF) technology is a novel method of identifying microorganisms using spectroscopic analysis of ionised molecules. It may replace traditional Microbiological methods in the future, since it is reported to be fast, accurate and cost effective. However, we are unaware of studies comparing MaldiTOF with conventional techniques for determining the microbial aetiology of infective endocarditis. To assess this, a prospective study of all confirmed cases of endocarditis (using modified Duke criteria) admitted to our hospital over a 12 month period was conducted. There were 31 cases. Blood cultures were positive in 24(77%).The most frequent isolates were Viridians streptococci(22%) Staphylococcus aureus (19%) and Enterococcus faecalis(16 %). Microbiological testing of heart valve tissue was performed in 30 patients.Thirteen (43 %) were culture positive and 20(67%) were PCR positive. Of the culture positive cases, 4 were identified by conventional methods and 9 by MaldiTOF. There was 100% agreement between results obtained by conventional techniques and PCR. The concordance rate between MaldiTOF and PCR identification was 66%. Discordant results were obtained in 2 specimens, which misidentified Staphylococcus aureus and Streptococcus mitis. In 3 culture positive cases, PCR testing directly on the heart valve was negative. In house testing of 438 standard isolates showed that MaldiTOF correctly identified 86% gram positive organisms, but misidentified Viridians streptococci as Streptococcus pneumoniae. This preliminary study demonstrates that MaldiTOF may not be as good as conventional techniques in identifying organisms causing endocarditis, especially Viridians streptococci which remains a common cause of native valve endocarditis.

POSTER NUMBER: 43
PAPER NUMBER: 47

MICROBIOLOGICAL MONITORING AND INFECTION CONTROL IN PATIENTS WITH MECHANICAL CARDIAC SUPPORT DEVICES

JASENKA ŠKRLIN[1], ŽELJKO SUTLIĆ[2], DAVOR BARIĆ[2], IGOR RUDEŽ[2], DANIJEL UNIĆ[2]

[1]Department for Clinical Microbiology and Hospital Infections, Dubrava University Hospital, Zagreb

[2]Department for Cardiac Surgery, Surgery Clinic of the Medical School in Zagreb, Dubrava University Hospital, Zagreb

*Address:
Assist. Prof. Jasenka Skrlin, PhD, MD, clinical microbiologist
Department for Clinical Microbiology and Hospital Infections
Dubrava University Hospital,
Avenija Gojka Suska 6,
10000 Zagreb, Croatia
Phone: +385 1 299 26 69,
Fax: +385 1 290 31 69,
E-mail: jas@kbd.hr

Objectives

Continuous-flow left ventricular assist devices (LVAD) are increasingly being used in patients with end-stage heart failure, but infection is a still frequent and one of the major complications associated with the use of device support. The objectives of this study were to investigate microbiological findings and consequences of infection in patients with VADs.

Methods

We conducted a retrospective chart review of patients with infected VADs at Dubrava University Hospital through 16 months four patients received mechanical circulatory support (one patient was implanted PVAD and the others LVAD) either as bridge to transplantation or as destination therapy.

Results

The first patient though the mechanical heart was removed by using intensive hemodynamic monitoring and applying carefully chosen, state-of-the-art antimicrobial therapy, died due to septic shock, as well as other patient, only two days following the operation, due to sepsis of unknown aetiology. The third patient was released from hospital soon after the operation with adequate and carefully chosen antimicrobial therapy based on the microbiological samples. The fourth patient, with both pre- and post-operative states being stable, ended the hospitalisation in December 2009; eight months following the VAD implantation, in June 2010, heart transplantation was successfully performed.

Conclusion

Timing of intervention, optimization of the preimplantation patient status, adherence to evidence-based infection control and prevention guidelines, meticulous surgical technique and optimal post-operative surgical site care form the foundation for VAD-associated infection prevention. Microbiological monitoring and prevention strategies, with medical and surgical management of infections may increase survival and decrease morbidity among LVAD patients.

POSTER NUMBER: 44
PAPER NUMBER: 116

INFECTIVE ENDOCARDITIS IN AFRICA: WHAT IS THE IMPACT OF THE HIV PANDEMIC?

Prof Smit FE[1], Prof Mestres CA[2], Dr Stroebel JAT[1], Dr Botes L[3]

[1]Department Cardiovascular Surgery, University of the Free State, Bloemfontein, South Africa; [2]Department of Cardiovascular Surgery, University of Barcelona, Spain; [3]School of Health Technology, Central University of Technology, Bloemfontein, South Africa.

Presenting Author Contact Details

Prof Francis E Smit Head:
Dept Cardiothoracic Surgery
Faculty of Health Sciences,
University of the Free State,
P O Box 339, (Int Box G32),
Bloemfontein 9300, South Africa
Tel: +27 51 405-3861
Fax: +27 51 444-3440
Mobile + 27 82 774-1087

Introduction

Surgery for Infective Endocarditis (IE) was performed in 37 adult patients (2006- 2010). The prevalence of HIV is more than 30% in Central South Africa. Surgery for Infective Endocarditis is performed in 10.3% of valvular surgical cases.

Aim

The retrospective patient data of this group of patients were compared to the published results of 203 patients operated for Infective Endocarditis in Johannesburg between 1982–1988 in the pre-HIV pandemic era (Middlemost, et al., 1991).

The patient population and associated predisposing diseases in patients presenting with Infective Endocarditis was compared in order to assess the role and impact of HIV/AIDS on presentation and outcomes. Furthermore, the outcome of surgery is assessed and compared between the two periods.

Results

Rheumatic valvular disease has remained the predominant predisposing disease.

3/15 (20%) of patients tested were HIV positive in a sub-analyses of patients presenting 2009-2011. All these patients also had rheumatic valvular disease.

61.1% in this series were operated urgently with a peri-operative mortality rate of 10.8% (4/37), whereas all 203 patients in the Middlemost series were considered to be hemodynamically compromised with a surgical mortality rate of only 4%.

Complex procedures were performed in 48.6% (18/37) of our patient population.

Discussion

Rheumatic heart disease still dominates predisposing associated diseases, whereas the role of HIV status remains unclear. The HIV status of patients and the general population does not have a clear impact on presentation of Infective Endocarditis nor on the outcomes of surgery.

POSTER NUMBER: 45 PAPER NUMBER: 86	HETEROGENEOUS VANCOMYCIN-INTERMEDIATE STAPHYLOCOCCUS AUREUS (HVISA) BACTEREMIA IN PATIENTS WITH LEFT VENTRICULAR ASSIST DEVICES (LVAD): A CASE SERIES
Spelman D[1], Halvorsen DS[1], Esmore D[2], Rosenfeldt F[2]. [1]Infectious Diseases and Microbiology Department, [2]Department of Cardiothoracic Surgery, Alfred Hospital, Melbourne, Victoria. Email: d.spelman@alfred.org.au	Background Ventricular Assist Devices(VAD) have become a viable option for patients with end-stage heart failure. Unfortunately device use is often complicated by sepsis, especially Staphylococcus aureus. Resistance to vancomycin, the antibiotic most often used to treat Methicillin Resistant S aureus (MRSA) infection is being increasingly described. Method Retrospective Case Series. Results The clinical course of 6 of 18 patients with MRSA bacteraemia was complicated by the development of hVISA. Long duration (median 266.5 days) LVAD support and long duration vancomycin (median 42.5 days prior to hVISA) were common features. Four patients survived to transplant. Conclusion There is a high incidence of the development hVISA when MRSA bacteraemia complicates LVAD support. The optimal antibiotic treatment regimen is unknown.

POSTER NUMBER: 46 PAPER NUMBER: 111	CURRENT TRENDS IN INFECTIVE ENDOCARDITIS IN THE LAST DECADE–FROM ACUTE ILLNESS TO DELAYED SEQUELAE SINGLE CENTRE EXPERIENCE IN NEW ZEALAND
Srinivasan G[1], Jeyakumar S[1], Ahmed J[1], Lin D[1], Holland D[2], Sutton T[1] [1] Department of Cardiology, Middlemore Hospital, Auckland, NewZealand [2] Dept of Infectious diseases, Middlemore Hospital, Auckland, NewZealand	Despite advances in health care the incidence of Infective endocarditis (IE) has remained unchanged but the demographics of IE have been changing especially in developed countries. The purpose of our retrospective investigation was to assess the current trends in the epidemiology, clinical presentation, short and long term outcomes in patients with IE. In a systematic retrospective review of clinical records, we analysed data on all patients admitted to hospital for IE between January 2000 to December 2010 at Middlemore hospital (500 bed hospital with a population of 500,000) 202 patients with IE or possible IE were identified of which 129 were male. There was over representation of Pacific Islander (31%) and Maori (20%). Native valve endocarditis was seen in 70% and Prosthetic valve IE in 26% and intracardiac device infection in 4%. 70% of the infection was in Mitral and Aortic valves. Right sided infection was seen in 2%. Rheumatic valvular heart disease is the most common underlying condition. 18/202 was on renal replacement therapy. 5/202 had history of IVDU. 4/202 had more than one episode of IE. Streptococcus were the causative organism in 40%, staphylococci 33%, enterococci 10%, Culture negative 5% and others 12%. Follow up ranged from 6 weeks to 4 years. 71% were treated medically. 33% of medically treated pts had home IV therapy. 27% had in-patient surgery (with in 30 days). 14/202 had early surgery with in 1 year and 4/202 had late surgery. In hospital mortality was 9.5% and mortality in 1 year was 10%.

POSTER NUMBER: 47 PAPER NUMBER: 109	THIRD REPORTED CASE OF BORDETELLA HOLMESII ENDOCARDITIS
Subramaniam R[1], Gabriel R[1], Sutton T[1], Holland D[2], McBride S[2], Taylor S[2], Srinivasan G[1] [1] Department of Cardiology, Middlemore Hospital, Auckland, New Zealand [2] Department of Infectious Disease, Middlemore Hospital, Auckland, New Zealand.	Thus far, only 2 cases of Bordetella holmesii endocarditis have been described in the literature. Bordetella holmesii is a slow growing obligate aerobic,Gram negative ,non-oxidising small coccobacilli. It causes bacteremia, endocarditis and respiratory illness mainly in the immune-compromised. A 49-year-old Fijian Indian gentleman presented with a febrile illness and confusion. He had significant history of anorexia and weight loss in the preceding 6 months. He had history of heavy alcohol and kava use. He was cachectic with a weight of 44kg(BMI -17) and malnourished. He had signs of moderate AR. His investigations revealed low serum creatinine. hypoalbuminemia, Iron deficiency anaemia and elevated inflammatory markers. Extensive investigations for occult malignancy were negative. Serological investigations were negative for HIV and Tuberculosis. Transthoracic and subsequent trans-oesophageal echocardiogram revealed abnormal aortic valve with moderate to severe aortic regurgitation and a non-oscillating mass causing erosion of the tip of the left coronary cusp, which was suspicious for vegetation. Blood culture taken on Day 1, 2 and 4 of admission revealed a slow growing fastidious Gram negative Bacillus. He was commenced on Penicillin and Meropenem. The organism was poorly reactive on standard phenotypic testing, and was identified as Bordetella holmesii 14 days later using bacterial 16S rRNA gene sequencing. This gentleman had Bordetella holmesii endocarditis presumably secondary to immune compromise contributed by malnourished state. He responded well to 6 weeks of Intravenous Meropenem.

POSTER NUMBER: 48 PAPER NUMBER: 115	EARLY DISCHARGE HAS NO IMPACT ON PATIENT PROGNOSIS AT ONE YEAR: A STUDY FROM THE INTERNATIONAL COLLABORATION ON ENDOCARDITIS PROSPECTIVE COHORT STUDY (ICE-PCS)
Tattevin P,[1] Cervera C,[2] Chu VH,[3] Moreno A,[2] Nacinovich F,[4] Pappas PA,[5] Miró JM,[2] and the ICE investigators [1]Pontchaillou Univ. Hosp., Rennes, France; [2]Hospital Clinic, IDIBAPS, Univ. of Barcelona, Spain; [3]Duke Univ. Medical Center, Durham, USA; [4]Instituto Cardiovascular, Buenos Aires, Argentina, [5]ICE Coordinating Center, Durham, USA	Objectives To evaluate the impact of early discharge on patients outcome. Methods The ICE-PCS enrolled all consecutive patients with infective endocarditis (IE) in 56 centers from 28 countries, during 2000-2006. We compared patients who remained in the ICE participating center during < 2 weeks, 2-4 weeks, or > 4 weeks after IE diagnosis. All patients with definite IE according to Duke criteria were included, except patients who died and/or underwent cardiac surgery before discharge. Results Of the 1856 patients studied, 385 (20.7%) were discharged before day 14 after IE diagnosis, 530 (28.6%) between day 14 and day 28, and 941 (50.7%) after day 28. Patients discharged early (< 2 weeks) were more likely to be younger, to have native valve IE, viridans group streptococcus IE, and less likely to have heart failure or stroke. There were striking differences in hospitalization duration from one continent to another, with 8% of patients being discharged before day 14 in Europe, versus 42% in North America. Mortality rates from discharge to 1-year follow-up were similar in the three groups, at 16.6%, 13.4%, and 17.7% in patients discharged < 2 weeks, 2-4 weeks, and > 4 weeks after IE diagnosis, respectively. Conclusions Important regional differences exist in IE management over the world. The prognosis at one year is remarkably similar, whatever the duration of stay in the ICE referral center. Despite the limitation of selection bias on this observational cohort, this study suggests that early discharge has no harmful consequences on patients prognosis.

POSTER NUMBER: 49 PAPER NUMBER: 64	COMMUNITY-ASSOCIATED MRSA ENDOCARDITIS: A CASE SERIES AND LITERATURE REVIEW
Townell NJ, Munckhof WJ, Looke D Infection Management Services, Princess Alexandra Hospital, Brisbane, Queensland, Australia	Community-associated methicillin-resistant Staphylococcus aureus (cMRSA) is an emerging global pathogen which most commonly causes skin and soft tissue infections but can also cause necrotising pneumonia, osteomyelitis and joint infections. Infective endocarditis occurs in up to 30% of patients with methicillin sensitive Staphylococcus aureus (MSSA) bacteremia. This is in stark contrast to cMRSA endocarditis of which there are only a few case reports in the literature, predominantly describing intravenous drug users with American USA 300 strain. The reasons for the low prevalence of infective endocarditis in patients with cMRSA bacteremia is unknown. There are three predominant cMRSA strains in Australia – ST93 (Queensland), ST30 (southwest Pacific) and ST1 (WA-MRSA-1). We have identified a small number of patients with cMRSA endocarditis managed at our institution. Our central case focuses on an Australian IVDU who developed cMRSA mitral valve IE complicated by septic emboli to the brain. The isolate was a non-multiresistant strain and was susceptible to all non-betalactams tested. Further microbiology analysis identified it to be of the WA-MRSA-1 clone and Panton Valentine Leukocidin PCR negative. He was treated with multiple antibiotics (Vancomycin, Lincomycin, Rifampicin and Linezolid) and required a prolonged hospital stay in Intensive Care and neurosurgical intervention. His prognosis is currently guarded. We will review our experience of cMRSA endocarditis in regards to epidemiology, microbiology, treatment and outcomes and present a review of the literature.

POSTER NUMBER: 50
PAPER NUMBER: 42

ASPERGILLUS FUMIGATUS INFECTIVE ENDOCARDITIS TREATED WITHOUT AMPHOTERICIN

Yarwood T1, Townell N1, Munckhof WJ1, Looke DFM1,2, Wilks K2, Faoagali J2, Boros S3 & Peters P4.

1. Infection Management Services
2. Microbiology, Pathology Queensland
3. Anatomical Pathology, Pathology Queensland
4. Department of Cardiac Surgery Princess Alexandra Hospital, Woolloongabba, Queensland 4120

Presenting Author:

Dr Trent Yarwood
Infectious Diseases Registrar
Division of Medicine
Cairns Base Hospital
The Esplanade
Cairns, QLD 4870
mobile phone: (0403) 819 234
email: trentyarwood@gmail.com

Abstract

Aspergillus endocarditis is rare, accounting for only 25% of cases of fungal endocarditis, but carries a high mortality. No adult cases have survived without surgical intervention and of the patients who survived, all but one were treated with amphotericin B. This report presents a patient who developed Aspergillus endocarditis following multi-trauma with a long hospitalisation who was intolerant of amphotericin and was treated with a vegetectomy and valve repair and combination voriconazole and caspofungin.

POSTER NUMBER: 51
PAPER NUMBER: 102

HACEK BACTERAEMIAS AND ENDOCARDITIS

Yew HS
Address: Department of Infectious Diseases, Christchurch Hospital, Private Bag 4710, Christchurch 8140, New Zealand
Telephone: +64-3-3640640, ext 86185
Email: james.yew@cdhb.govt.nz

Yew HS[1], Chambers S[1,2], Holland D[3], Julian K[3], Raymond N[4], Beardsley J[4], Read K[5], Roberts S[6], Murdoch D[1,2]

[1] Christchurch Hospital, New Zealand

[2]University of Otago, Christchurch, New Zealand

[3] Middlemore Hospital, New Zealand

[4] Wellington Hospital, New Zealand

[5] North Shore Hospital, New Zealand

[6] Auckland City Hospital, New Zealand

Background

One major criterion in the Duke Criteria for diagnosis of endocarditis is isolation of a typical microorganism in blood cultures and persistent bacteraemia, defined as either (a) two positive blood cultures drawn >12 hr apart, or (b) all of three or most of four or more separate blood cultures, with first and last specimens drawn at least 1 hr apart. The HACEK group of organisms are well-recognised causes of infective endocarditis and we surmise that only one positive blood culture may be sufficient for the diagnosis of HACEK endocarditis. The aim of our study was to determine the predictive value for endocarditis of a positive blood culture for a HACEK bacterium, and to examine the causes of HACEK bacteraemias in general.

Methods

We retrospectively examined all cases of HACEK bacteraemia in 5 major New Zealand centres over 10-20 years.

Results

At the time of writing, we have identified 85 cases of HACEK bacteraemis, with 51 cases fulfilling criteria for definite/probable endocarditis. Preliminary results according to organisms are as follows: Haemophilus parainfluenzae – 17 cases (9 with endocarditis), Haemophilus aprophilus - 9(5), Haemophilus paraphrophilus - 4(4), Aggregatibacter actinomycetemcomitans – 18(18), Cardiobacterium sp. - 8(7), Eikenella corrodens - 11(0), Kingella sp. - 18(8). Nineteen cases had other foci of infection, 6 were considered contaminants, and 9 had no obvious focus.

Conclusions

Based on these data, the positive predictive value of HACEK bacteraemia for the presence of endocarditis is 60%, although this does appear to vary between the different members of the HACEK group.

PRESENTING AUTHOR INDEX

PRESENTING AUTHOR INDEX

Index to *11th International symposium on modern concepts in endocarditis and cardiovascular infections*

NOTES

NOTES

NOTES