769

TNFα REDUCES COCHLEAR BLOOD FLOW VIA ENHANCED MICROVASCULAR S1P SIGNALING

D Lidington, EQ Scherer, J Yang, M Canis, K Ivanov, CD Diehl, PH Backx, GW Wier, K Reimann, S Strieth, P Wangemann, J Voigtlaender-Bolz, SS Bolz
Toronto, Ontario

BACKGROUND: Antagonizing tumour necrosis factor alpha (TNFα) significantly improves auditory function in patients suffering sudden hearing loss (SHL), indicating a link between inflammation and inner ear dysfunction. The objective of this investigation is to demonstrate that TNFα, via sphingosine-1-phosphate (S1P) signaling, has the potential to alter cochlear blood flow and thus, cause ischemic hearing loss.
CONCLUSION: TNFα indeed reduces cochlear blood flow via the activation of vascular S1P signaling. This integrates hearing loss into the family of ischemic microvascular pathologies, with implications for risk stratification, diagnosis and treatment.
HSFO, CIHR, CFI, ORF, NIH

Canadian Society of Cardiac Surgeons (CSCS)
CSCS360 Poster
CSCS POSTER SESSION III
Tuesday, October 26, 2010

772

GIANT-CELL ARTERITIS OF THE THORACIC AORTA: A YET "UNTAMED" DISEASE?

D Kalavrouziotis, F Dagenais
Québec, Québec

BACKGROUND: The management of giant-cell arteritis (GCA) of the thoracic aorta remains controversial. We report our institutional experience of this entity and perform a qualitative literature review.
CONCLUSION: Mid-term outcomes of patients following thoracic aortic surgery with histologically-proven GCA are acceptable and appear to be no worse than patients without GCA. However, no consensus exists regarding optimal management and follow-up of patients with thoracic aortic GCA. Better assessment of disease activity may identify patients at risk of disease progression and allow tailoring of steroid therapy.

773

MYECTOMY SURGERY REDUCES LA SIZE AND PREVENTS POSTOPERATIVE ATRIAL ARRHYTHMIAS IN PATIENTS WITH HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY (HOCM)

RL Zur, CB Overgaard, AC Ralph-Edwards
Toronto, Ontario

The traditional indications for myectomy surgery for Hypertrophic Obstructive Cardiomyopathy (HOCM) include the presence of significant resting or provokable LVOT obstruction and concomitant mitral regurgitation, along with symptoms refractory to medical therapy. Over the past few years, novel indications for myectomy surgery have emerged, including the performance of 'prophylactic' myectomy to prevent the progression of left atrial (LA) enlargement and subsequent atrial arrhythmias. The clinical outcomes of patients referred for this indication are not known.
This is the first study to examine the outcomes of patients with HOCM who underwent myectomy to prevent LA enlargement and future atrial arrhythmias as their primary surgical indication. Although the relative numbers of patients who underwent surgery for this indication was small (6%), this group experienced a significant reduction in LA size and subsequent arrhythmias with no major adverse postoperative clinical events. Myectomy with selective use of the MAZE procedure may be an effective strategy to prevent future morbidity in patients with HOCM who are minimally symptomatic but at higher risk for future arrhythmic events based on morphologic parameters.

774

SUPPURATIVE MEDIASTINITIS AFTER OPEN HEART SURGERY, LENGTH OF PRE-OPERATIVE HOSPITALIZATION: IS THIS AN INDEPENDENT RISK FACTOR?

RK Chaturvedi, A Alam, B DeVarennes, P Goldberg, SL Sang, G Samoukovic, K Lachapelle
Montréal, Québec

BACKGROUND: Traditional risk factor for post sternotomy mediastinitis are age, chronic obstructive pulmonary disease (COPD), diabetes, and morbid obesity. As elective procedures decrease and more hospitalized patients are waiting for urgent cardiac procedures, the preoperative length of hospital stay (LOS) before surgery is increased significantly due to waiting period. The objective of this retrospective review was to examine the effect of LOS as a pre-operative predictor of post-operative mediastinitis.
CONCLUSION: Apart from traditional risk factors like age, diabetes, COPD, obesity, the LOS prior to cardiac surgery was found to be an independent predictor for the development of mediastinitis. Length of preoperative hospital stay represents a modifiable risk factor which may impact nutritional or immune status. Results may help physicians for preoperative decision making.

775

A SIMPLE NON-INVASIVE METHOD TO PREDICT MITRAL VALVE GEOMETRICAL ORIFICE AREA FOLLOWING AN EDGE TO EDGE REPAIR

E Gaillard
Montréal, Québec

BACKGROUND: The edge to edge repair (EtER) technique consists of anchoring the free edge of the diseased leaflet of the mitral valve to the corresponding edge of the opposing leaflet. When the middle sections of the leaflets are sutured, a "double-orifice" mitral valve is artificially created. The main consequence of this technique is that mitral valve geometric orifice area (MGOA) is sensibly reduced and a functional mitral stenosis might be created. The purpose of this study was to determine mathematically the MGOA with a simple non-invasive formula following an EtER.
CONCLUSION: This study allowed us to introduce and validate a simple and non-invasive mathematical model to predict the resulting mitral geometric orifice area following an edge to edge repair. We have shown that, even if the "double-orifice" edge to edge repair technique seems to be an effective method to correct mitral regurgitation, the significant reduction of mitral valve area and so the occurrence of a mitral stenosis can become a problem for the patient. Finally, this simple mathematical model could be helpful for clinicians to determine the mitral valve area reduction after "double-orifice" EtER.

776

LONG-TERM SURVIVAL FOLLOWING AORTIC VALVE REPLACEMENT IN PROSTHESIS-PATIENT MISMATCH (PPM) CATEGORIES IN AGE GROUPINGS AND LEFT VENTRICULAR FUNCTION CATEGORIES REGARDLESS OF LACK OF PPM AS INDEPENDENT PREDICTOR

J Higgins, WE Jamieson, J Ye, G Fradet, E Germann
Vancouver, British Columbia

BACKGROUND: PPM has been reported by the authors regardless of effective orifice area indexes (EOAI) to not be predictive of early,late and overall mortality. (Annals Thorac Surg 2010). The authors have also reported that within basal mass index (BMI) categories, those with normal EOAI had better long-term survival than those with severe PPM. (Can J Cardiol 2009). It was suggested that BMI associated with survival after AVR and PPM modifies the effect.
CONCLUSION: Even though EOAI has no predictive effect on survival, whether early, late or overall the Kaplan-Meier survival curves do differ by EOAI categories. The reasons are related to complexity of patient populations in three categories especially category of severe prosthesis-patient mismatch for=60years and ejection fraction=50%.

777
TREATMENT ASSIGNMENT OF HIGH-RISK SEVERE AORTIC STENOSIS PATIENTS REFERRED FOR TRANSCATHETER AORTIC VALVE IMPLANTATION: THE HAMILTON EXPERIENCE

JL Velianou, KR Bainey, M Mercuri, K Teoh, V Chu, J Hankinson, M Isac, S Gregoroff, L Gauthier, D Bedini, F Riley, P Beamsley, P Walton, I Travale, MK Natarajan
Hamilton, Ontario

BACKGROUND: Recently, transcatheter aortic valve implantation (TAVI) has emerged as a viable option for patients with symptomatic severe aortic stenosis whose comorbidities place them at high surgical risk. Yet, little is known regarding actual treatment allocation in this high-risk patient population. Accordingly, we sought to evaluate the characteristics and treatment assignment of patients referred for TAVI.

CONCLUSION: Of high-risk severe aortic stenosis patients referred for TAVI, majority of patients were accepted for either TAVI or conventional AVR. The mortality awaiting evaluation for TAVI raises concern. Prompt referral and treatment assignment should be performed in such a high-risk patient population.

778
A DECADE LATER THE ONTARIO SCORE IS STILL A VALID MORTALITY RISK SCORE FOR CARDIOVASCULAR SURGERY

LE Garrido Olivares, A Elhenawy, G Tait, S Beattie, L Thabane, SJ Brister
Toronto, Ontario

BACKGROUND: Multiple mortality risk scores in cardiovascular surgery have been reported. The most frequently employed risk models are the European System for Cardiac Operative Risk Evaluation (EuroSCORE) and the Society of Thoracic Surgerons mortality risk score. However a simple score was developed in Ontario by Tu et al in 1995. During the last decade there are no published studies reporting the current performance of this model. Our objective was to assess the performance of the Ontario risk score in a full spectrum population of Canadian cardiovascular surgery patients.

CONCLUSION: A decade later, the Ontario risk score model is still a valid predictive model for 30-day operative mortality in our general multi-ethnic universal access cohort of cardiac surgery patients. The performance of the model is also robust to subgroup analysis. Consequently, the Ontario risk score model is a valid mortality risk model in our setting and, considering its simplicity and easy implementation should be employed more frequently.

779
IMPACT OF CLOPIDOGREL ON PATIENTS WITH ACS UNDERGOING CORONARY BYPASS SURGERY: THE PRACTICE STUDY

A Lamy, N Noiseux, T Kieser, S Fremes, RJ Novick, R Cartier, A Cheung, V Bernstein, TM Yau, Y Ou
Hamilton, Ontario

BACKGROUND: While guidelines agree that clopidogrel should be discontinued 5-7 days before coronary artery bypass grafts (CABG) in the context of acute coronary syndrome (ACS), patients are routinely submitted to CABG surgery without discontinuing clopidogrel. While the bleeding outcomes are well known, there is a relative uncertainty regarding the exact impact on the use of blood products, the need for blood transfusions and exposure to allogeneic blood products.

CONCLUSION: Patients exposed to clopidogrel (last dose within 120 hours before surgery) were compared with those not exposed to clopidogrel. Patients exposed to clopidogrel and undergoing CABG surgery in the setting of an ACS were more likely to receive allogeneic blood products and be exposed to multiple blood donors. These risks must be balanced with the benefits of waiting a few more days before proceeding to the CABG surgery.

AstraZeneca

780
MEDIASTINITIS COMPLICATING CARDIAC SURGERY IN DIABETES MELLITUS – CAN MORBIDITY AND MORTALITY BE CONTROLLED?

N Esmaeili, H Shayan, A Taggar, WE Jamieson
Vancouver, British Columbia

BACKGROUND: Mediastinitis diagnosed by deep sternal wound infection has been reported with an incidence as high as 5% and mortality regardless of intervention exceeding 20%. The study was conducted to determine the institutional status of diabetic management for cardiac surgery and role of HbA_{1c}.

CONCLUSION: HbA_{1c}, in patients referred to our institution, was under-utilized and when utilized 85.2% were uncontrolled. When HbA_{1c} was utilized and controlled, there was only one mortality and that case had pre-operative anemia. HbA1c and anemia-controlled management is necessary to prevent deep sternal Mediastinitis and subsequent mortality in CABG surgery.

781
CONTEMPORY OUTCOMES FOLLOWING CORONARY ARTERY BYPASS GRAFT SURGERY: RESULTS FROM THE CASCADE MULTI-CENTER RANDOMIZED TRIAL

A Kulik, P Voisine, P Mathieu, R Masters, TG Mesana, M Le May, M Ruel
Boca Raton, Florida

BACKGROUND: CASCADE (Clopidogrel after Surgery for Coronary Artery Disease) was a multi-center randomized placebo-controlled trial that evaluated the impact of adding clopidogrel to aspirin therapy on the process of saphenous vein graft (SVG) disease following multi-vessel coronary artery bypass graft surgery (CABG). One year after surgery, enrolled patients underwent coronary angiography as well as intravascular ultrasound to assess SVG intimal hyperplasia.

CONCLUSION: With consistent use of postoperative aspirin and statin therapy, CABG is associated with excellent angiographic and clinical outcomes in the modern era. Factors associated with adverse events in the CASCADE Trial included poor target vessel quality, small target vessel size, and female gender.

782
SURVIVAL AFTER SURGICAL TREATMENT FOR ACUTE INFECTIVE ENDOCARDITIS IN INTRAVENOUS DRUG USERS

M Carrier, M Pellerin, D Bouchard, P Demers, LP Perrault
Montréal, Québec

BACKGROUND: Surgical treatment of intravenous drug users presenting with an acute bacterial endocarditis remains controversial. The objective of the present study was to evaluate short- and long-term survival after surgical treatment of infective endocarditis in this difficult patient population.

CONCLUSION: Surgical treatment of bacterial endocarditis in intravenous drug user patients is a difficult task. Not only the technical aspect with massive annular destruction and abscesses is problematic but the recurrence rate of endocarditis and the non compliance to treatment appears to explain in part our dismal results.

783
BI-LATERAL INTERNAL MAMMARY ARTERY (BIMA) GRAFTING CONFERS IMPROVED LONG-TERM SURVIVAL AFTER CABG COMPARED TO MULTIPLE ARTERIAL GRAFTING WITHOUT BIMA

RP Kelly, KJ Buth, J Légare
Halifax, Nova Scotia

BACKGROUND: The primary objective of this study was to examine the effect of different arterial grafting strategies in CABG surgery on long-term mortality.

CONCLUSIONS: We were able to show that after adjusting for