16:00 - 17:30 S24 - Cardiothoracic Surgery Hall E

Chairs: **A. Elami**
E. Raanani

16:00 **Non Emergent Surgical Repair of Ascending Aortic Aneurysms**
B. Sheick-Yousif [1], S. Tager [1], A. Shinfeild [1], Y. Moshkovitz [2], A. Kogan [1], E. Raanani [1]
[1] Ramat Gan, [2] Petach Tikva

16:15 **Mid-term Results of Mitral Valve Repair: Closed versus Open Annuloplasty Ring**
D. Spiegelstein [1], Y. Moshkovitz [2], L. Sternik [1], S. Tager [1], B. Sheick-Yousif [1], A. Malachy [1], M. First [1], E. Raanani [1,2]
[1] Ramat Gan, [2] Petach Tikva

16:30 **Excess Mediastinal Fat in Patients Undergoing Coronary Revascularization as Compared to Patients Undergoing Valve Surgery with Normal Coronaries**
D. Aravot, Y. Peisachovitch, J. Gurevitch
Haifa

16:45 **Central versus Peripheral Cannulation in Reoperative Cardiac Surgery: Intra-Operativre Adverse Events and Early Outcome**
D. Spiegelstein, J. Lavee, S. Tager, L. Sternik, A. Shinfeld, Y. Kassif, Z. Ziskind, A. Kogan, S. Preisman, A. Malachy, E. Raanani
Ramat Gan

17:00 **Aortic Valve Gradient Significantly Reduced Short Period Post Aortic Valve Replacement**
O. Cohen, V. Kertzman, Z. Adler, S. Diab, Y. Ben-shahar, Z. Bekerman, G. Bolotin
Haifa

17:15 **Longterm Outcome of Coronary Artery Bypass Grafting Surgery in Acute Evolving Myocardial Infarction Compared to Coronary Artery Bypass Grafting Surgery Without MI**
D. Fink, E. Berliner, S. Silberman, R. Tauber, O. Merin, D. Bitran
Jerusalem

Non Emergent Surgical Repair of Ascending Aortic Aneurysms

Basheer Sheick-Yousif [1], Salis Tager [1], Ami Shinfeild [1], Yaron Moshkovitz [2], Alexander Kogan [1], Ehud Raanani [1]

[1] Cardiac Surgery Department, Chaim Sheba Medical Center, Ramat Gan, [2] Cardiac Surgery Department, Assuta Medical Center, Petach Tikva, Israel

OBJECTIVE: To summarize our experience with elective surgical treatment for ascending aortic aneurysms.

METHODS: From January 2004, 350 patients underwent replacement of the ascending aorta with or w/o the aortic root. 63 emergent acute dissection where excluded from the study. There were 214 male patients (74%) with a mean age of 60 years (range16-87). Indications for surgery were; ascending aortic diameter of 5.5 cm (183 pts), 4.5 cm in marfan pts (26 pts) and 5 cm in pts with bicuspid aortic valve (AV) (78 pts). Mean Logistic Euroscore was 9.3% (range1.4%-88%). Operative techniques included: Isolated ascending aorta replacement in 144 pts, either with AV replacement in 49 pts or with AV repair in 21 pts or without any AV involvement in 74 pts. Composite AVR was performed in 97 pts, Root sparing in 39 pts and included 22 pts who underwent David I procedure and 17 pts who underwent David II; 7 pts underwent other root sparing techniques. In 65 pts the aortic arch was also enlarged and need replacement. Total Circulatory arrest was needed in 80 pts.

RESULTS: Thirty day operative mortality was 2.7%. Mean ICU stay was 41 hours, with a mean ventilation time of 12 hours. The major post operative complications were: re-exploration for bleeding in 10 pts (3.4%), failure from weaning from mechanical ventilation 4 pts (1.4%), LCO 5 pts (1.7%), major neurological events in 3 pts (1%). Mean hospital stay was of 9 days (range 5 – 39).

CONCLUSION: Our experience, supported by data from the literature, shows that elective surgical repair for Ascending Aortic Aneurysms is safe and should be considered in any patient who is a candidate for aortic surgery according to the ACC guidelines.

Mid-term Results of Mitral Valve Repair: Closed versus Open Annuloplasty Ring

Dan Spiegelstein [1], Yaron Moshkovitz [2], Leonid Sternik [1], Salis Tager [1], Basheer Sheick-Yousif [1], Ateret Malachy [1], Maya First [1], Ehud Raanani [1,2]

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Background

Closed and open annuloplasty rings are used for mitral valve (MV) repair. This study compares clinical and echocardiography results, in patients with mitral regurgitation secondary to degenerative mitral disease, undergoing MV repair with closed versus open annuloplasty ring.

Methods

From 2004, 377 patients underwent MV repair. Valve pathology was degenerative in 262(70%) patients, all underwent MV repair with annuloplasty ring. Closed ring was used in 129 patients (49.2%) and in 133 patients (50.8%) open ring was used. Choice of ring was usually due to surgeon's preference. Mean age was 58±12 and 60±12, in closed and open groups, respectively (NS). Preoperative NYHA was 2.2±0.8 and 2.1±1.0 in closed and open groups, respectively (NS). Other than annuloplasty, valve repair techniques included leaflet resection (43% and 79%, $p<0.01$), artificial chordea (49% and 27%, $p<0.01$), and Alfieri edge-to-edge repair (2.3% and 0%, NS) in closed and open groups, respectively.

Results

There were 1 (0.77%) in hospital death in closed ring group, and 1 (0.75%) in open ring group. Mean follow up was 15±16 month. Freedom from reoperation was 97.7% and 98.5%, in closed and open groups, respectively. At follow-up NYHA was 1.6±0.7 in closed ring versus 1.5±0.6 in open ring group (NS). Echocardiography follow-up revealed 93%(120/129) and 86%(114/133) of patients (closed and open groups, respectively) were free from moderate or severe mitral regurgitation ($p=0.086$).

Conclusions

Patients with closed annuloplasty ring may have better echocardiographic mid-term result than patients with open ring, with no evidence of systolic anterior motion in the closed ring group.

Excess Mediastinal Fat in Patients Undergoing Coronary Revascularization as Compared to Patients Undergoing Valve Surgery with Normal Coronaries

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Background: Visceral abdominal fat was found to be associated with an increased risk for cardiovascular disease as well as for its other risk factors including diabetes mellitus, hypertension, and other dyslipidemic and metabolic syndromes. Mediastinal fat may be a useful specific marker of visceral fat accumulation as well as an important mediator of metabolic as well as local toxic effect which may contribute to the previously discovered abnormal LV energy metabolism.
Methods: In this study we compared the volume of the mediastinal fat obtained during surgery from patients undergoing coronary revascularization with a matched group undergoing valve surgery with normal coronaries.
The mediastinal fat included the tissue resected from the anterior mediastinum from phrenic to phrenic.
Results: There were 20 patients in each group all men matched for age and weight.
The mean mediastinal fat volume in the coronary group was 127 cm3 (95-143) compared to 63 (45-92) cm3 in the valvular group ($p<0.001$). In the coronary group the incidence of diabetes, hypertention and dyslipidemia were significantly higher than that in the valvular group.
Conclusion: Mediastial fat volume is significantly larger in patients with coronary artery disease than in patients with valvular disease presenting normal coronary arteries which may suggest association with most metabolic risk factors as well as exertion of local vascular toxic effects.

Central versus Peripheral Cannulation in Reoperative Cardiac Surgery: Intra-Operativre Adverse Events and Early Outcome

Dan Spiegelstein [1], Jacob Lavee [1], Salis Tager [1], Leonid Sternik [1], Amihai Shinfeld [1], Yigal Kassif [1], Zvi Ziskind [1], Alexander Kogan [1], Sergey Preisman [2], Ateret Malachy [1], Ehud Raanani [1]

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Background

Reoperative cardiac surgery represents a surgical challenge due to the injury potential during sternotomy and adhesions separations. Extra-thoracic cannulation prior to sternotmy may reduce adverse events and improve outcome. We compared early results, between extra-thoracic cannulation and initiation cardiopulmonary bypass (CPB) prior to sternotmy versus post sternotomy CPB.

Methods

From 7/2005 to 7/ 2008, 249 patients underwent reoperative cardiac surgery, through median sternotomy. In 84(33%) patients, extrathoracic cannulation was performed, and CPB was initiated **prior to sternotomy:** Pre-ST group. In 165(67%) patients CPB was initiated **after sternotomy:** Post-ST group (144 thoracic cannulation; 18 peripheral arterial and right-atrium, and 3 emergency femoral cannulation after sternotomy). In general, higher risk patients (2^{nd} time re-do, open IMA, LV dysfunction) were chosen to undergo pre-sternotomy CPB, (EuroScore 21±17 versus 16±13, p=0.03).

Results

In hospital death was similar between groups (10/84 and 18/165 death, p=0.83). Major adverse events (Coronary grafts/aorta/LV/RV injuries) tend to be less frequent in Pre-ST group (1/84 and 7/165, p=0.28).

Mean hospital stay, ICU and ventilation times were similar between groups. Operative and bypass time were longer in Pre-ST bypass group (337±127 versus 295±133; 145±66 versus 114±54, p<0.05). Post-operative bleeding tend to be higher in Pre-ST group (597 versus 469, p=0.07), and platlets/cryo transfusion was higher in Pre-ST group (p<0.05). Packed-cells and FFP transfusion were similar between groups. Groin complications occurred in 13/110 (12%) patients with femoral exposure.

Conclusions

Despite higher risk patient group, Pre-Sternotomy CPB provided lower in hospital major events compared with Post-sternotomy CPB in complex reoperative cardiac surgery.

Aortic Valve Gradient Significantly Reduced Short Period Post Aortic Valve Replacement

Oved Cohen, Victor Kertzman, Zvi Adler, Sammer Diab, Yoav Ben-shahar, Ziv Bekerman, Gil Bolotin

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Background: Despite limitations the transvalvular gradient (TVG) still is commonly used as one of the surgical procedure success indicators post aortic valve replacement. The importance of immediate post operative, prosthatic-patient mismatch after Aortic valve replacement is still unclear. We sought to explore the dynamic of the transvalvular gradient along the early period after the surgery.

Methods: One hundred fifty four consecutive patients who aortic valve replacement between the years 2005-2007, formed the final study group. All the patient had echocardiographic test few days postoperarive (1±0.5 weeks) and the results were compared to the late postoperative echo that was conducted (9.1±8.1 weeks) later.

Results: TVG was significantly higher on the immediate postoperative echo measurements comparing with the later test with average peak TVG of 37.31±15.29 and mean TVG of 19.68±7.86 compering with 32.31±12.1 and 17±7. 6 accordingly ($p<0.006$)

Conclusion: TVG as measured few days post opearation must be reviewed a few weeks later as the TVG is significantly dercease and the early result does not reflect the actual TVG.

Longterm Outcome of Coronary Artery Bypass Grafting Surgery in Acute Evolving Myocardial Infarction Compared to Coronary Artery Bypass Grafting Surgery Without MI

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Objective: Emergent CABG in for acute evolving myocardial infarction carries a higher early mortality and morbidity than elective surgery. However, data concerning long term outcomes are insufficient. The purpose of this study is to analyze the long- term outcomes in this subgroup and compare results to those of elective CABG patients.

Methods: Between 1993-2006, 85 patients underwent emergency CABG within 24 hours of AMI in our department. Ninety patients undergoing elective CABG in the same time period were matched to the study group and served as control. Predicted mortality by EuroSCORE was 37% for the study group and 7.5% for control (p=0.001). Kaplan-Meier estimates were used to compare survival. Cox regression multivariate analysis was used to identify predictors for outcomes. Median follow-up was six years for both groups.

Results: For the study and control group respectively: operative mortality was 23% and 5.5% (p<0.001). One, five, and ten year survival rate was 96%, 89% and 79% vs 93%, 80% and 56% (p=0.16). Operative mortality was higher in patients undergoing surgery between 6-24 hours compared to those operated within 6 hours from onset of MI (30% vs 18%); (p=ns). The need for re-intervention was 34% and 15.3% (p=0.035). By univariate analysis predictors for operative mortality were, acute MI, cardiogenic shock, reduced LV function, unstable AP, diabetes mellitus, NYHA class III-IV. By multivariate logistic regression only cardiogenic shock (p=0.0001), other than pure CABG (p=0.037) and diabetes mellitus (p=0.03) were found as predictors for operative mortality. Factors associated with late survival were age at time of surgery, EuroSCORE, and post-operative angina.

Conclusions: In our experience long-term outcomes are favorable in patients undergoing CABG for acute evolving MI, and comparable to those of elective surgery. Cardiogenic shock is the most important factor influencing surgical mortality. Emergency CABG should be considered early in any case of acute MI with anatomic indications for CABG.