

CONCLUSIONS: These results of the study showed subclinical impairment of the left ventricular myocardial function and diastolic dysfunction of the right ventricle, the possible mechanisms of which may be attributed to an increase in the afterload of right ventricle and increased pulmonary blood flow. Subclinical dysfunction of the left ventricle is the possible mechanism of which has been stated as injury to the coronary microcirculation was noted especially in patients with VSD at short-to midterm follow-up after the arterial switch operation. Overall, regarding the septal TDI values and LV Tei index following ASO, the left ventricular myocardial function is impaired subclinically. Moreover, right ventricular myocardial involvement as assessed by TDI was stated to be affected independently from the presence of post-operative PS. Prospective studies including larger groups of patients after the ASO are needed for the evaluation of long-term prognosis of coronary and myocardial involvement.

PP-073 A NEW INTERNAL CARDIAC MASSAGE TECHNIQUE

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OBJECTIVE: Classical internal cardiac massage mostly can increase systolic blood pressure to maintain sufficient brain and systemic organ perfusion but diastolic blood pressure commonly remains below 10 mmHg. To be able to increase the diastolic blood pressure sufficiently, the surgeon grabs the distal part of the ascending aorta between the thumb and index finger of the left hand and squeezes it during the diastolic time period to increase the diastolic pressure. Ascending aorta is released during ventricular squeezing, and subsequently ascending aorta is squeezed during the ventricular relaxation.

March 2, 2012 / 17:00-18:30 ADVANCES IN THE DIAGNOSIS AND TREATMENT OF VALVULAR HEART DISEASES – POSTER DISCUSSIONS

PP-075 AORTIC VALVE REPLACEMENT WITH MECHANICAL PROSTHESES IN OCTOGENARIAN

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OBJECTIVE: This study analyzes the long-term outcomes of mechanical aortic valve replacement in octogenarian patients in the current surgical era.

METHODS: A retrospective review was performed on 23 octogenarian patients who underwent mechanical aortic valve replacement. A multivariable model was constructed to determine predictors of hospital mortality, postoperative ICU stay, hospital stay,

long-term results. Estimates of the cumulative event rate mortality were calculated by the Kaplan-Meier method.

RESULTS: The mean age of all patients was 82.9±2.3 years, most were men (65.22%). The median ejection fraction was 45%, and 73.91% were in New York Heart Association class III-IV heart failure. Thirteen (56.52%) patients in this study underwent combined procedure; the remaining 10 (43.48%) patients underwent isolated aortic valve replacement. The most common valve size was 23 mm. The mean intensive care unit stay was 1.76±1.14 days. The mean hospital stay was 9.33±5.06 days. No complications were observed in 56.52% patients during their hospital stay. In hospital 7-day mortality was zero and the overall hospital mortality was 8.7%. Follow-up was 100% complete for all 23 hospital survivors at a median of 33 months (range, 1-108 months). Actuarial survival among hospital survivors was 59% at 5 years.

CONCLUSIONS: In the current era, mechanical aortic valve replacement in octogenarian patients is a safe procedure even in cases where combined procedure is performed.

PP-090 COMMISSURAL QUADRANGULAR RESECTION AND SLIDING ANNULOPLASTY TECHNIQUES PERFORMED IN BOVINE HEART MODEL IN HOME ALONE IN MITRAL VALVE REPAIR TRAINING

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OBJECTIVE: The importance of surgical simulation has grown in the quickly changing climate of modern surgical training. Prior to operating in human hearts, practice in appropriate experimental models is necessary to reach an adequate experience. We have an experience in training our residents to perform mitral valve repair techniques in bovine heart models. In this study, we demonstrate commissural quadrangular resection and sliding annuloplasty in posteromedial commissure.

METHODS: The aorta was closed with a running 3-0 silk suture to prevent leakage from aortic valve during the saline test after mitral valve repair procedure. Mitral valve apparatus was examined beginning from P1 scallop with nerve hooks in order to assess any chordal rupture or elongation. Previously performed surgical technique was triple artificial loop technique in the same heart. (A few primary chords in A2 scallop were cut to create regurgitation, and then they were replaced with a triple artificial chord, known Leipzig Technique. Subsequently, ink test, described by Dr. David ADAMS, was performed to measure coaptation depth). In the second study at the same bovine heart, commissural quadrangular resection was performed in posteromedial commissure, and then A3 and P3 scallops were detached from the annulus.

Subsequently, three transverse plicating sutures were placed to narrow the annulus followed by anterior chordal fixation of secondary chords which were beneath the A3 and P3 free margins. Afterwards commissure was recreated using 'magic suture', described by Dr. Carpentier, and sutured to the annulus with running 4/0 polyester suture.

RESULTS: It can be observed that there was not any regurgitation after saline test. However, there is a little prolapsing segment in A3 scallop. It can be corrected with placing two artificial chords or performing triangular resection.

CONCLUSIONS: Unless we try we cannot learn. Mitral valve repair techniques can be performed and experimented in animal heart models.

Figure



A: A few primary chords in A2 scallop were cut to create regurgitation, and then they were replaced with a triple artificial chord, known Leipzig Technique (arrow) in previous study. commissural quadrangular resection was performed in posteromedial commissure in the next study.

B: A3 and P3 scallops were detached from the annulus. Subsequently, three transverse plicating sutures were placed to narrow the annulus.

C: Anterior chordal fixation of secondary chords which were beneath the A3 and P3 margins were performed. Commissure was recreated using 'magic suture'. It can be observed that there was not any regurgitation after saline test. However, there is a little prolapsing segment in A3 scallop. It can be corrected with placing two artificial chords or performing triangular resection.

levels (below 6 mg/dl) and serum haptoglobin. No other causes of anaemia or hemolysis were identified. Red cell transfusions were required in all patients before reoperation. The interval between initial mitral valve repair and reoperation is one month. All patients were symptomatic and complained of severe fatigability due to anemia. Transesophageal echocardiogram during hemolytic evaluation showed only mild mitral regurgitation in both two patients but also detected this small regurgitant jet struck a non-endothelialized portion of the annuloplasty ring.

RESULTS: Reoperation was performed and the valve was replaced with mechanical prosthesis in both two patients. They are being followed up, with normally functioning mitral prosthesis, and no signs of hemolysis.

CONCLUSIONS: Minor degrees of regurgitation after mitral valve repair can produce hemolytic anaemia which is manifested within the first few postoperative months. Most patients are highly symptomatic because of severe anaemia. The mechanism of red cell destruction is a high velocity eccentric stream of blood impacting on a small area of a non-endothelialized portion of the annuloplasty ring or pledget. Because of that following repair with a prosthetic ring, it is essential to clearly visualize the dynamic flow patterns intraoperatively with transesophageal echocardiography. The most important finding is the contact of the regurgitant flow and the annuloplasty ring. This process retards endothelialization of the ring. These findings may lead the surgeon to revise the repair or to replace the valve.