Elevated White Blood Cell Count Before Coronary Angiography is Associated with Poor Outcome after Coronary Artery Bypass Surgery

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Background: Previous studies demonstrated that elevated White Blood Cell (WBC) count is associated with higher morbidity and mortality following coronary artery bypass surgery (CABG). It has not been established if elevated WBC count prior to coronary angiography influences outcome of patients undergoing CABG.

Methods: Preoperative data of 401consequitive patients that underwent coronary angiography and referred to surgery in our institution were prospectively collected. WBC count was analyzed before cardiac catheterization. Patients were followed-up intraoperatively and postoperatively during hospitalization for surgery. Elevated white blood cell count was defined as higher than $14x10^3/mm^3$. Prolonged ICU stay was defined as longer than 72 hours and prolonged hospital length of stay was defined as longer than 10 days.

Results: Patients with elevated WBC count prior to coronary angiography had an increased mortality rate (17% vs. 3%, p=0.003), prolonged ICU stay (22% vs. 6%, p=0.01) as well as prolonged hospital length of stay (13% vs. 3%, p=0.04). Patients with elevated WBC count that were operated within 24 hours from coronary angiography had a significantly higher mortality rate (28% vs. 4%, $p<0.001$) even when adjusted to other confounding factors.

Conclusions: Elevated WBC count before coronary angiography is an important marker of poor outcome for coronary artery bypass operations, especially if surgery was performed within 24 hours from angiography. If possible, surgery should be delayed for more than 24 hours or until a decrease in the white blood cell count.

Endoscopic Versus Open Vein Harvesting for Coronary Artery Bypass Grafting

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OBJECTIVE: Conventional open saphenous vein harvesting (OVH) with long operative incision can be associated with significant wound pain and serious morbidity in some patients with a resultant extended treatment period. Endoscopic vein harvesting (EVH) with one or two small 3 cm incisions, in theory should alleviate wound pain, reduced leg wound infection and lead to greater patient satisfaction. This study aims to compare the two techniques on this basis and determine whether EVH is a viable technique within normal operative time. Also we sought to compare infection complications of greater saphenous veins removed during coronary artery bypass grafting with the endoscopic vein harvesting vs. open vein harvesting techniques.

METHODS: During 2001 – 2006 years, 2576 patients undergoing coronary artery bypass grafting. From these patients 578 underwent endoscopic vein harvesting. All performed by three surgeons with the Clearglide endoscopic vein harvest system (CardioVaition Johnson and Johnson Inc). End points were impaired wound healing and postoperative pain. Follow-up was scheduled at 1 month. Leg wound healing was evaluated at discharge and 1 month late for evidence of complications.

RESULTS: The groups were well matched. Leg wound complications were significantly lower in the endoscopic vein harvest group (2.3% vs. 8.1%). Patients in the EVH group had lower postoperative pain. On multivariable analysis, endoscopic vein harvesting associated with lower leg wound complications. The new procedure did not prolong the overall operative time.

CONCLUSION: These data clearly demonstrate that endoscopic vein harvest results in significantly reduced post-operative pain, better impaired wound healing, allows earlier ambulation and does not prolong the operative time significantly with no compromise in vein quality.

Alcohol Use in Donors is a Protective Factor on Recipients' Outcome after Heart Transplantation

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Objective: Outcome of heart transplantation is highly influenced by good donor selection. Since history of alcoholism is prevalent among potential heart donors, we sought to explore the effect of alcohol use in donors on the outcome of heart transplantation in the recipient.
Method: 437 consecutive patients underwent heart transplantation, from January 2002 through September 2005. Patients' files were retrospectively studied. Mean follow-up period was 3.14±1.9 years (range, 3 days to 6.5 years). The cohort was divided into two subgroups. Alcoholic donor group (ADG) include 98/421 patients and non-alcoholic donor group (NADG) with 323/421 patients. Mean age, 35.3±11.4 (Range, 18 to 66) for the ADG and 33±12.2 years (range, 18 to 62) for NADG.
Results: Mortality rate among the ADG was 7/98 (7.1%), NADG was 55/323 (17.1%) (p=0.015). The mean interval time between transplant and mortality was at ADG 27.7±20.6 months (range, 0.07 to 51), NADG 16.4 ±19.6 months (range, 0.14 to 73) (p= 0.031). Survival rate was significantly higher among the ADG 72.8±1.9 months compare with NADG: 66.2±1.5 months (p=0.019). Rejection rate was 22/421 (5.2%), in NADG 17/323 (5.2%) and 5/98 (5.1%) in ADG. Rejection free survival was 74.6±0.85 with no significant difference between the two groups (p=0.85).
Conclusion: Donor's chronic alcoholism found to be a protective factor regarding the outcome after heart transplantation. Significant differences were found in mortality rate and survival after heart transplantation between the ADG and NADG. This data supports the fact that it is safe to use donors' hearts regardless of a history of alcoholism.

Trans Esophageal Echocardiography - a Priceless Tool in Providing Surgical Excellence

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Introduction: Post operative evaluation of the adequacy of surgical repair of congenital heart defects is of utmost importance Trans Esophageal Echocardigraphy (TEE) has become the standard of care in providing real time information and in assessing the operative success, and has great influence on cardiac surgical decision making. For the last decade TEE is routinely performed at our institution following congenital heart surgery. We herein present our experience and clinical impact of the use of TEE in the operating room.

Materials and Methods:
Retrospective review of all intra-operative TEE studies performed in the operating room in the years 2004 to 2007.

Results: 1000 TEE studies were performed in the operating room following congenital heart surgery in the years 2004 to 2007. In 5.5% of the cases (55 Pts) a second bypass run was needed in order to achieve optimal results due to residual RVOTO (51%, mostly TOF), residual LVOTO (7%,), Valve dysfunction (18%), Ventricular dysfunction (5%) and Unexpected surgical errors (5%). In all 55 patients residual lesions were corrected.

Conclusion: TEE is a priceless tool in providing surgical excellence. Close collaboration between the cardiologist and the cardiac surgeon leads to a team approach, enabling the surgeon to safely walk the thin ice by precisely tailoring his surgical repair, knowing that TEE will guide him through in achieving an the optimal result for the benefit of the patient.

Risk Factors for Failed "Fast-tracking" after Cardiac Surgery in Patients Older than 70 Years

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INTRODUCTION In recent years, the number of elderly people has grown at twice the rate of the general population. Cardiac surgery is one of the most often performed procedures in this age group. "Fast-track" pathway after cardiac surgery was introduced to expedite recovery and thus to make more efficient use of limited facilities and resources. The present study sought to identify the determinants of failure of "Fast-track" pathway in elderly patients
MATERIALS AND METHODS We performed a retrospective observational study of all patients aged 70 years or more who underwent cardiac surgery between January 2004 and June 2007.
RESULTS During the study period 2272 patients underwent cardiac surgery. Of them 860 (37.9%) were 70 years old or older. The septuagenarian group included 576 patients and the octogenarian group, 284. "Fast-track" pathway was successful in 54.5% and 37.3%, respectively. On multiple logistic regression analysis, stroke, renal failure, and procedures other than first isolated CABG were independently associated with failed early extubation, delayed intensive care unit discharge and delayed hospital discharge in both groups. Infections and atrial fibrillation were independent risk factors for delayed hospital discharge in both groups and delayed intensive care unit discharge in the octogenarians. In the octogenarians, congestive heart failure was an independent risk factor for failed early extubation, delayed intensive care unit discharge and delayed hospital discharge.
CONCLUSION "Fast-track" pathway may be safely applied in selected septuagenarians and octogenarians. Age alone should not exclude otherwise qualified candidates from consideration for "Fast-trapathwa"

Pericardial Window Through Left Vertical Minithoracotomy for Thick Pericardium with Massive Effusion

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Background: There are two main approaches (transthoracic and subxiphoid) for creation of pericardial window. In recent years thoracoscopy has also yielded positive results. Some controversies still exist regarding the efficacy of such operations in for thick pericardium. We retrospectively reviewed our 5-year experience with left minithoracotomy through parasternal vertical approach in patients with massive pericardial effusion.

Patients and methods: Between September 2001 and October 2006, 14 patients (men-8, women-6; mean age 62 years) with recurrent massive pericardial effusion underwent minithoracotomy in the 4th intercostals space through a left vertical parasternal skin incision.

Results: Large pericardial windows were created. Mean operating time was 35 min. Thick pericardium (3-4 mm) and fibrin collections were found in 13 cases. Pathologic findings were compatible with: acute or chronic pericarditis (9), metastatic carcinoma (3), mesothelioma (1) and tuberculosis (1). There were no postoperative complications and no recurrent pericardial effusions. Seven patients died due to the progress of their main disease (renal failure – 3, malignancy-3, cirrhosis –1).

Conclusions: Minithoracotomy through a left parasternal vertical incision in the 4th intercostal space is suitable for creation of the window even in complicated cases, where the pericardium is thick. It gives optimal conditions for surgeon and provides excellent material for a pathological diagnosis, with good functional and cosmetic results.

Permanent Left Ventricular Assist Device (Destination Therapy), One Year Follow-Up; the Cardiologist Perspective

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Background: Left ventricular assist devices (LVADs) were recently approved for "destination therapy", namely a permanent mechanical solution for patients with end-stage heart failure who are not eligible for heart transplantation. We present our one year follow-up in a patient with HeartMate II LVAD.

Case presentation: A 67 year old man who suffered from HF for 7 years was admitted with acute decompensated heart failure (HF) and hermodynamics manifestations of cardiogenic shock. After he remained dependent on an intra aortic balloon pump and positive inotrops, a HeartMate II (Thoratec Corporation) LVAD was implanted as destination therapy. During one year follow-up, the patient remained free of HF symptoms and was able to perform daily activities with no significant limitations including traveling out of town for family gathering meeting. The patient was followed closely by the cardiology heart failure team on a basis of two visits per month. Speed adjustments of the device were done based on clinical and echocardiogram measurements. There were no significant technical problems of the device and the patient was able to replace batteries independently. During one year of follow-up we needed to take care of several issues; epistaxis which required local treatments and anti-coagulation therapy adjustment, cable exit wound infection and bacteremia which required intra-venous course of antibiotics.

Conclusion: The LVAD as a destination therapy, both prolonged our heart failure patient's life and significantly improved its quality .It is however prudent to keep the patients in a close surveillance as medical complications are not un-common.