14:55 - 15:45 EC3 - Intensive Cardiac Care Hall B

Chairs: **H. Hod**
S. Gottlieb

14:55 **In-Hospital Metabolic Changes and the Consequences on Short and Long Term Outcome in Patients with Acute Myocardial Infarction**
R. Dragu, M. Kapeliovich, H. Hammerman
Haifa

15:03 **Outcome of Patients Who Were Presented For, But Did Not Undergo Coronary Artery Bypass Graft Surgery**
D. Abramov, G. Sahar, M. Matsa, D. Stavi, Y. Ishai
Beer Sheva

15:11 **In-Hospital Occurrence of Intracavitary Left Ventricular Thrombus Formation Following an Acute Anterior Myocardial Infarction in Patients Treated with Primary PCI and Continuous Anticoagulation**
Y. Shacham, A. Cohen, O. Rogovski, Y. Cogan, G. Keren, A. Roth
Tel Aviv

15:19 **Impact of the Intensivist-led Team on Postoperative Outcomes in a Specialized Cardiac Surgical Intensive Care Unit**
A. Kogan, P. Ghosh, I. Kasiff, S. Prejsman, S. Tager, L. Sternik, J. Lavee, B. Sheick-Yousif, D. Spiegelstein, E. Raanani
Ramat Gan

15:27 **Mural Thrombus after ST Elevation Myocardial Infarction. Still Dangerous?**
S. Bereza, N. Liel, H. Gilutz, D. Zahger, R. Ilia, C. Cafri
Beer Sheva

15:35 **Seasonal Variations in Hospital Admission in Patients with Heart Failure and its Effect on Prognosis**
I. Gotsman, D. Zwas, D. Admon, C. Lotan, A. Keren
Jerusalem

In-Hospital Metabolic Changes and the Consequences on Short and Long Term Outcome in Patients with Acute Myocardial Infarction

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Aim: It has been demonstrated that albumin is a negative phase reactant and the development of hypoalbuminemia is in close relation to the inflammation status. In this light, the aim of the present study was to assess the prevalence and prognostic significance of changes in serum albumin levels along hospitalization in patients with acute myocardial infarction (AMI).

Methods: We prospectively studied 1418 consecutive patients admitted with AMI and normal synthetic liver function. Serum albumin concentration was tested daily during hospitalization. The mean follow-up period was 24 months. Multivariate Cox models were used to assess the relationship between nadir albumin level and long term survival.

Results: During hospitalization 54.5% of study population developed hypoalbuminemia (<3.5 g/dl). The mean nadir albumin was 3.38±0.58 g/dl (median 3.5, IQR 3.1-3.8), 0.31 g/dl lower then admission levels ($p<0.0001$). In-hospital mortality according to nadir albumin quartiles (from lowest to highest) was: 21.9%, 4.8%, 2.3% and 2.3% respectively ($p<0.0001$). During long term follow-up, we observed a mortality of: 30.2%, 10.1%, 5.5% and 3.9% respectively ($p<0.0001$). After adjusting for age, gender, diabetes mellitus, hypertension, ST-elevation AMI, anterior wall involvement, left ventricular systolic function and creatinine clearance, the nadir albumin in lowest quartile (<3.1 g/dl) remained a strong predictor for mortality (HR 3.23, 95% CI [1.24-8.40], $p<0.016$).

Conclusion: The development of hypoalbuminemia is frequent during hospitalization of patients with AMI and is strongly related to a worse short and long term outcome.

Outcome of Patients Who Were Presented For, But Did Not Undergo Coronary Artery Bypass Graft Surgery

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Objective:
The objective of this study was to evaluate the outcome of patients who were presented for but did not undergo coronary artery bypass surgery.

Materials and Methods:
Between 1998-2002, 1459 patients underwent cardiac surgery in the department of Cardiothoracic Surgery, Soroka Medical Center. During this period, 81 patients were presented for but refused to undergo coronary artery bypass surgery. A thorough follow up was done on these patients. Mean follow up period was 4 years.

Results:
Most of these patients were treated medically with statins, beta blockers, plavix, and ACE inhibitors. During the follow up period, 74.9% of the patients suffered from one or more of the following: mortality (37.7%), unstable AP, MI, or a decrease in LV ejection. The mean time to the appearance of one of the above was 1.14. years. 28% underwent additional cardiac catheterization, and 22% underwent eventually CABG. There was a significant survival difference between patients with triple vessel disease and LV dysfunction to other patients (cardiac death – p=0.016, total mortality – p=0.038). Peripheral vascular disease was also a risk factor for early mortality in this group of patients – (cardiac death – p=0.146, total mortality – p=0.004). Male gender and diabetes showed a non significant tendency to early mortality. Older age and unstable AP at the time of presentation were not associated with earlier mortality. We found high correlation (79.9%) between LV function at presentation and during follow up. There was a reversed correlation between euro score at presentation and early mortality (3.74).

Conclusion:
Outcome of patients who are presented for CABG surgery is not favorable without the operation even with the nowadays maximal medical treatment. Patients with triple vessel disease, PVD, diabetes, and high euroscore are in higher risk.

In-Hospital Occurrence of Intracavitary Left Ventricular Thrombus Formation Following an Acute Anterior Myocardial Infarction in Patients Treated with Primary PCI and Continuous Anticoagulation

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Background: The occurrence of left ventricular thrombus (LVT) after acute anterior myocardial infarction (AAMI) is reportedly 20-60%. This rate decreased significantly with thrombolysis and even more (to 10-20%) with primary percutaneous intervention (PCI). We reasoned that prolonged anticoagulation following primary PCI will further reduce the incidence of LVT.

Objective: To assess the occurrence of LVT formation in patients hospitalized for an anterior ST-segment elevation MI (STEMI) and treated with primary PCI and continuous anticoagulation.

Methods: Our practice is to continue heparin anticoagulation for 48 hours followed by adjusted doses of low molecular weight heparin until discharge on day 5 to all patients who undergo PCI for STEMI. An echocardiogram is performed shortly after admission, and those with an AAMI have another one before discharge. We reviewed the records of all patients with an AAMI admitted between January 2006 and October 2008 for the presence of LVT.

Results: 211 consecutive patients (mean age 61 ± 13 years, range 29-92; 82% male) were included. The first echocardiogram was performed within 1.2 ± 0.9 days of admission and the second after 5.8 ± 3.6 days. Their mean admission LV ejection fraction was 41 ± 6.0% (range 20-60%). LVT was demonstrated on the initial echocardiogram of 5 patients (2%) and on the second echocardiogram of another 6 patients (2.7%).

Conclusion: Primary PCI followed by continuous anticoagulation therapy throughout hospitalization significantly reduces the occurrence of LVT in patients who present with AAMI-STEMI. Determination of the exact contribution of prolonged in-hospital anticoagulation awaits randomized prospective trials.

Impact of the Intensivist-led Team on Postoperative Outcomes in a Specialized Cardiac Surgical Intensive Care Unit

Alexander Kogan [1], Probal Ghosh [1], Igal Kasiff [1], Sergey Prejsman [2], Salis Tager [1], Leonid Sternik [1], Jacob Lavee [1], Basheer Sheick-Yousif [1], Dan Spiegelstein [1], Ehud Raanani [1]

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INTRODUCTION: It is apparent that the increasing complexity of cardiac surgical cases requires a new level of critical care performance. The aim of the study was evaluation of the impact of a newly appointed intensivist on cardiac surgical intensive care unit patient outcomes and quality of care variables.

MATERIALS AND METHODS We performed observational cohort study with historical controls in eight-bed cardiac surgical intensive care unit (CSICU) in tertiary university hospital. Mortality, ventilation time, length of stay in the CSICU and hospital (LOS) were compared between two 1-year periods, before and after the appointment of intensivist. Data regarding these patients were collected using the department database.

MEASUREMENTS AND MAIN RESULTS: We analyzed 864 patients before (first period) and 808 patients after (second period) the intensivist appointment. The unadjusted in-hospital mortality decreased from 6.48 % (56 patients) in the first period to 4.08 % (33 patients) in the second period ($p<0.01$). The mortality predicted according to EuroSCORE was 8.76±11.3% in the first period and 8.9±12.5% in the second (NS). Mean ventilation time was unchanged - 37±119.2 hours vs. 37.7±108.2 hours (NS). Mean ICU LOS and mean hospital stay were unchanged - 2.8±6 vs. 3.1±6.7 days (NS) and 8.8±11.3 vs. 8.9±12.5 days (NS). ICU readmission rate decrease from 4.8% to 3.1%.

CONCLUSIONS: The appointment of intensivist-led team model was associated with a positive impact on patient outcomes, and lowering postoperative mortality, especially in high-risk patients

Tab

	2006	2007	
Standard EuroSCORE	**0-3**		
No of patients	288	277	P=0.31
Mortality (%)	0.35% (1/288)	0.36% (1/277)	P=0.87
Standard EuroSCORE	**4-6**		
No of patients	269	262	P=0.46
Mortality (%)	1.12% (3/269)	1.52% (3/262)	P=0.23
Standard EuroSCORE	**7-10**		
No of patients	226	201	P=0.41
Mortality (%)	7.52% (17/226)	7.96% (16/201)	P=0.87
Standard EuroSCORE	**>10**		
No of patients	81	68	P=0.5
Mortality (%)	43.2% (35/81)	17.6% (12/68)	P>0.001

Mural Thrombus after ST Elevation Myocardial Infarction. Still Dangerous?

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Background and Aims: Mural thrombus was a frequent complication described in 20% of STEMI pts in the pre-reperfusion era .Its incidence, predictors and consequences in the current era of reperfusion and intense antithrombotic therapy are incompletely understood.
Methods: We retrospectively identified 761 STEMI pts admitted between 2003 to 2008 who had moderate to severe left ventricular systolic dysfunction . Patients with mural thrombus [MT (41 pts, 5.4%)] and without it [nMT (715 pts, 94.6%)] were compared. Demographic, clinical, angiographic, angioplasty and echocardiographic characteristics were studied. Multivariate analysis was performed to identify predictors of mural thrombus and for the impact of mural thrombus on one year mortality
Results: MT and nMT patients did not differ significantly in terms of age (61±13 vs.62±14) and gender (male: 83% vs.76%) . The use of primary PCI (63% vs 63%) and thrombolysis (11% vs 12%) was also similar . The use of warfarin before the admission (2.4% vs 3.4%) or clopidogrel (80% vs 73%) and aspirin (90% vs 92%) at discharge was similar in the MT and nMT groups. A trend for a higher prevalence of diabetes mellitus (33% vs 20%, p=0.09) and obesity (40% vs 25%, p=0.08) was seen in the nMT pts. Patients with MT more frequently had severe LV dysfunction in comparison to the other patients (46% vs 31%, p=0.03).
One year mortality was similar in MT (7%) and nMT (12%) patients (p=ns). A multivariate analysis found that MT was not an independent predictor of one year mortality after STEMI [0R: 0.6 (0.1-4.8.)]Severe LV dysfunction was the only independent predictor of mural thrombus formation [OR: 1.9 (1.03-3.68)]. In such analysis reperfusion therapy was not associated to mural thrombus development (OR: 1.1 (0.5-24).
Conclusion: A mural thrombus after STEMI is currently observed in about 5% of patients with moderate – severe LV dysfunction. Its frequency increases with the severity of LV dysfunction but it has a minimal impact on survival . In this selective group of patients mechanical or pharmacological reperfusion had not influence on the mural thrombus formation.

Seasonal Variations in Hospital Admission in Patients with Heart Failure and its Effect on Prognosis

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Background: A seasonal variation in hospital admissions in patients with heart failure (HF) has been described and most admissions occur during the winter season. The effect of this seasonal variation on prognosis is less clear.
Objectives: To evaluate the effect of the seasonal timing of hospital admission on clinical outcome in patients with HF.
Methods: We prospectively enrolled 362 consecutive patients hospitalized with a definite clinical diagnosis of HF during a two year period. Patients were followed clinically for a period of one year.
Results: There was a prominent seasonal variation in hospital admissions in patients with HF with peak admissions during the winter. The admission rate inversely correlated with the average monthly temperature. Regression analysis demonstrated a highly significant inversion correlation between mean temperature and admission rate (R^2=0.77, P<0.0001). Admission during the summer season was a significant predictor of reduced survival (59% versus 75%, P<0.01). Cox regression analysis demonstrated that independent predictors of reduced survival after adjustment for other predictors were admission during the summer (HR 1.9, 95% CI 1.1-3.4, P<0.05) or admission during the hottest 6 months (HR 1.9, 95% CI 1.2-3.0, P<0.01). In addition, increased mean environmental admission temperature was an independent predictor of reduced survival. The higher the temperature (10°C increments), there was increased mortality (HR 1.6, 95% CI 1.3-2.0, P<0.0001). In addition, there was a two fold increase in mortality in patients admitted when the temperature was above 18.5°C (HR 2.0 CI 1.3-3.0, P<0.001).
Conclusions: Seasonal temperature has a significant effect on the rate of hospital admission in patients with HF. Admission during the summer months is a sign of a poor prognosis.