

16:00 - 17:30 S23 - ACS Complications

Hall C

Chairs: **S. Matezky**
A. Pollak

- 16:00 **Clinical Characteristics, Treatment and Outcome of Patients After Out-of-Hospital Cardiac Arrest: Insights in Rambam Intensive Cardiac Care (RICCa) Registry**
*E. Marcusohn*², *A. Roguin*¹, *R. Dragu*¹, *A. Zdorovyak*¹, *R. Zukermann*¹, *A. Sebbag*¹,
*A. Kerner*¹, *M. Boulos*¹, *D. Aronson*¹, *H. Hammerman*¹, *M. Kapeliovich*¹
¹ Haifa, ² Beer Sheva
- 16:15 **The Effect of Duration Of Clopidogrel Treatment On Outcome Following Coronary Stent Implantation**
A. Porat, *H. Gilutz*, *C. Cafri*, *R. Ilia*, *D. Zahger*
Beer Sheva
- 16:30 **Incidence of Myocardial Infarction is Associated with Tight Glycemic Control Only in DM Individuals with the Hp 2-2 Genotype.**
U. Milman, *C. Shapira*, *S. Blum*, *A.P. Levy*
Haifa
- 16:45 **Ischemic Mitral Regurgitation Dynamics in Patients with STEMI Undergoing Primary Percutaneous Coronary Intervention**
L. Bloch, *M. Jabaren*, *H. Shurman*, *K. Suleiman*, *L. Ilan Bushari*, *S. Abrek*,
A. Feldman, *A.N. Fredberg*, *Y. Turgeman*
Afula
- 17:00 **Acute Myocardial Infraction Overdiagnosis According to Positive Troponin Test in Hospitalized Patients**
M. Gara, *D. Planer*, *C. Lotan*, *R. Alcalai*
Jerusalem
- 17:15 **Efficacy of the Radial Approach for the Performance of Primary PCI for STEMI. Still on Time**
C. Cafri, *A. Shalev*, *A. Shimony*, *A. Abu Ful*, *S. Yaroslavslav*, *G. Rosenstein*,
F. Mantzur, *M. Mirkin*, *J.M. Wainstein*, *H. Gilutz*, *R. Ilia*, *D. Zagher*
Beer Sheva

Clinical Characteristics, Treatment and Outcome of Patients After Out-of-Hospital Cardiac Arrest: Insights in Rambam Intensive Cardiac Care (RICCa) Registry

Erez Marcusohn³, Ariel Roguin^{1,2}, Robert Dragu¹, Alex Zdorovyak¹, Robert Zukermann¹, Anat Sebbag¹, Arthur Kerner¹, Monther Boulos¹, Doron Aronson^{1,2}, Haim Hammerman^{1,2}, Michael Kapeliovich¹

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Introduction. Despite recent advances in treatment of patients after out-of-hospital cardiac arrest (OHCA), mortality in this group remains high.

Objectives. To study etiology, clinical characteristics, treatment, and outcomes of patients admitted to ICCU after OHCA.

Methods. RICCa is an ongoing registry of all consecutive patients admitted to ICCU Rambam Health Care Campus.

Study period: 01.01.2000 – 31.05.2008.

Study outcomes: 1) in-hospital, 30-day, 6-months and 1-year survival rates;

2) rate of good neurological outcome at discharge.

Results. One hundred and forty five patients after OHCA were identified (2% of all admissions); 113(78%) - males; mean age – 65±12 years.

STEMI in 76(52%), NSTEMI - 37(25.5%), ischemic cardiomyopathy [CM] - 15(10%), non-ischemic dilated CM - 1(0.7%), hypertrophic CM - 1(0.7%), valvular disease - 14(9.7%) , long QT syndrome - 3(2%) and ARVD in 1(0.7%) were diagnosed. Some patients had multiple cardiac problems. In 23(16%) the cause of CA remained unclear.

CA occurred at home in 69(48%) patients, in 137(94%) CA was witnessed, but bystander CPR was initiated only in 46(32%). Mean CPR duration - 27±14 min.

Coronary risk factors: hypertension in 77(53%), smoking - 61(42%), dyslipidemia - 56(39%), DM - 42(29%), family Hx - 23(16%) patients. Some patients had multiple risk factors.

Medical Hx: prior angina in 43(30%), previous MI - 50(34%), PCI - 38(26%), CABG - 19(13%) patients. Different co-morbidities were found in 65(45%) patients.

On admission 126(87%) were unconscious and 41(28%) presented with shock. During hospital course renal failure was diagnosed in 73(50%) patients.

Rx: therapeutic hypothermia in 25(17%), primary PCI - 48(33%), thrombolytic therapy - 3(2%) and AICD - 23(16%).

Outcomes: in-hospital, 30-day, 6-months and 1-year survival rates were 50%, 48%, 44%, 39%, respectively; rate of good neurological outcome at discharge - 34%.

We were not able to identify any parameter which was associated with survival and/or good neurological outcome.

Conclusions. 1) Survival of patients admitted to ICCU after OHCA is relatively high.

2) In most patients cardiac arrest was triggered by acute coronary event, but in about one sixth the cause of CA was not identified. 3) Spectrum of coronary risk factors and cardio-vascular history was quite similar to general ICCU population.

The Effect of Duration Of Clopidogrel Treatment On Outcome Following Coronary Stent Implantation

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Background: Dual anti platelet therapy for 9-12 months is superior to 1 month only following coronary stenting. Whether an intermediate treatment period might be sufficient, while reducing the risk and cost of clopidogrel treatment, is unknown.

Objectives: To examine the continuous relation between the duration of clopidogrel use during the first year following coronary stenting and outcome.

Methods: We studied all patients who underwent coronary stenting at our center between 6/03 – 8/05 and performed a landmark analysis of patients who were event free (death or non-fatal AMI) 1, 3, 6, 9 and 12 months following stenting. Each cohort was followed for one year; the occurrence of death and of death or non-fatal AMI was compared between clopidogrel users and non-users at the beginning of each time point. The effect of clopidogrel on outcome was assessed in a multivariate model.

Results: Demographic and clinical data were available for 1154 patients. 974 were treated with bare-metal stents (BMS). Within this group multivariate analysis at the various time points showed a significant reduction of mortality: 6 months: 4.4% vs. 1.7%, OR : 0.11-0.99, 9 months: 3.1% vs. 0.9%, OR: 0.07-1.34 and 12 months: 3.2% vs. 1.3%, OR: 0.1-2.08. The composite of mortality or non-fatal AMI was also independently reduced by clopidogrel at all time points: 6 months: 9.5% vs. 6%, OR: 0.25-0.98, 9 months: 8.5% vs. 2.7%, OR: 0.13-0.92 and 12 months: 7.8% vs. 2%, OR: 0.05 -0.96. No statistically significant differences were shown among DES users.

Conclusions: In an observational study of 1154 consecutive patients we found that clopidogrel treatment for 12 months after coronary stenting is associated with a lower risk of death or the composite of death or non-fatal AMI in patients treated with BMS. These findings suggest that shorter treatment periods are not sufficient. The apparent lack of benefit in DES recipients was probably due to the very high rate of clopidogrel utilization among these patients.

Incidence of Myocardial Infarction is Associated with Tight Glycemic Control Only in DM Individuals with the Hp 2-2 Genotype.

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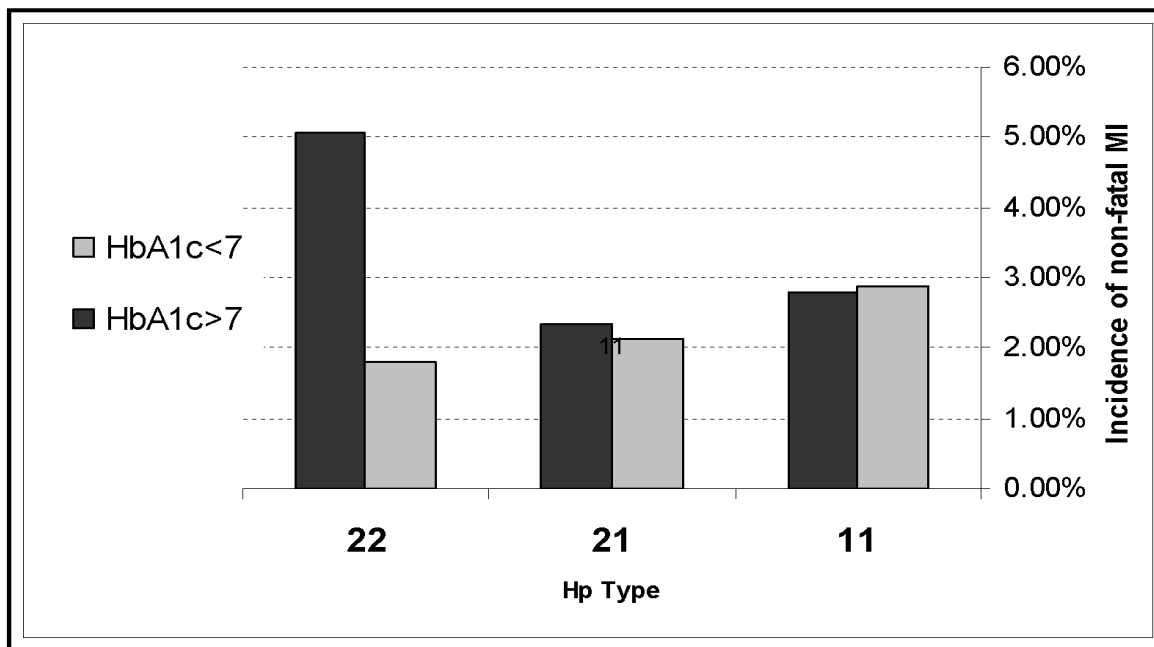
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Background. The Haptoglobin (Hp) gene is polymorphic in man with two classes of alleles denoted 1 and 2. Several studies have demonstrated that individuals with DM and the Hp 2-2 genotype are at increased risk for MI. We sought to determine if this relationship between Hp genotype and the risk of MI was affected by the degree of glycemic control in a community based longitudinal study.

Methods. We obtained a Hp genotype on 2230 individuals (283 Hp 1-1, 1241 Hp 2-1 and 706 Hp 2-2), 55 years of age or older with DM from Northern Israel. Study participants were followed for up to 3 years for the incidence of MI.

Results. At baseline there were no significant differences between groups in their DM characteristics (HbA1c, duration) or in the prevalence of CVD (25%). After stratification of study participants to those with an average HbA1c of above or below 7.0, we found that only in individuals with the Hp 2-2 genotype was strict glycemic control associated with a reduction in the incidence of MI (RR 2.80, 95% CI 1.33-6.92, p=0.0195, NNT=30.7).

Conclusions. Optimal utilization of health care resources for risk factor modification should be focused on DM individuals with the Hp 2-2 genotype. Benefit from tight glycemic control only in a subset of the DM cohort defined by the Hp 2-2 genotype may explain the inability to show a benefit from tight glycemic control on reducing MI in all individuals with DM.



Ischemic Mitral Regurgitation Dynamics in Patients with STEMI Undergoing Primary Percutaneous Coronary Intervention

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Background: Ischemic mitral regurgitation (IMR) has been associated with poor prognosis, but so far the dynamics of this entity has not been fully defined.

Aim: To determine non invasively the timing of appearance, natural history and predictors of IMR dynamics among pts with STEMI undergoing PPCI

Material & Methods Echo-Doppler study was performed in 100 consecutive pts with STEMI, eligible for PPCI. The presence and severity of IMR including LVEF% were evaluated on admission, 24 hour, 30 and 180 days post procedure. Before PPCI 27/100 (27 %) pts showed IMR. The dynamics of IMR during follow up are presented.

Results:

	MR Dynamics			P values *
	No change (N=11)	Deterioration (N=9)	Decrease (N=7)	
Age	57.6±6.3	60.9±15.3	59.1±9.8	.71
Gender (% male)	9 (81.2)	8 (88.9)	5 (71.4)	.58
Anterior MI (%)	5 (45.5)	7 (77.8)	3 (42.9)	.20
Diabetes Mellitus (%)	3 (27.3)	5 (55.6)	3 (42.9)	.36
Hypertension (%)	11 (100)	9 (100)	7 (100)	1.00
Prior MI's (%)	2 (18.2)	1 (11.1)	1 (14.3)	1.00
Timi flow: end PPCI: 0-I	1 (9.1)	0 (0.0)	0 (0.0)	
II	1 (9.1)	3 (33.3)	0 (0.0)	
III	9 (81.8)	6 (66.7)	7 (100.0)	1.00
LVEF (%) before PPCI	45.36±6.00	39.89±3.48	42.85±5.67	.03
24 hr post PPCI	44.00±6.97	40.44±6.40	44.00±4.76	.26
F/U 180 days	56.00±10.10	43.11±7.11	50.86±4.52	.005
LVEF (%Δ) During F/U	24.9±24.5	8.0±14.7	20.2±17.4	.09

* Deterioration Vs other groups

Conclusions: Low ejection fraction at presentation with no improvement during f/u found to be a significant predictor for IMR deterioration.

Acute Myocardial Infraction Overdiagnosis According to Positive Troponin Test in Hospitalized Patients

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Background: Although troponin is considered as specific marker for the diagnosis of acute coronary syndrome (ACS), recent studies showed elevation of troponin in a variety of non-ischemic conditions. Our aim was to determine the accuracy of troponin for the diagnosis of ACS in hospitalized patients

Methods: We analyzed all patients admitted to our hospital and for whom troponinT levels were tested. The study group was divided into four subgroups: ACS with and without troponin elevation and non-ACS with and without troponin elevation. The accuracy of troponin test was evaluated according to demographic and clinical data. A multivariate logistic regression analysis was performed to define clinical variables that predict the diagnosis of ACS. Different cut-off values of troponin according to the clinical status were tested using roc-curve analysis.

Results: During the study period 898 patients had troponinT test. 597 had elevated troponin of whom 306(51.2%) had a main diagnosis of ACS. 301 patients had negative troponin of whom 28(9%) had ACS. The sensitivity of troponin was 91.6% while the specificity was only 48.4%. Positive predictors for diagnosis of ACS were smoking, hyperlipidemia, normal renal function and troponin levels >1ng/ml. History of CVA was strong negative predictor for ACS diagnosis. Cut-off value of 1ng/ml was found to be more accurate than 0.1ng/ml in old patients with renal failure.

Conclusions: the specificity of troponin test in general hospitalized patients was found to be considerably low causing over-diagnosis of MI. Hence the diagnosis of MI still mostly should be based on the clinical presentation and not solely on the troponin test. We identified clinical predictors that combined with different cut-offs may increase the diagnostic accuracy of troponin and can guide the appropriate treatment.

Efficacy of the Radial Approach for the Performance of Primary PCI for STEMI. Still on Time

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Background: Use of the radial approach during primary PCI for STEMI could improve outcome by decreasing the rate of bleeding complications. Wider application of this technique is limited by concerns about longer reperfusion times.

Aim: To investigate the influence of the radial approach on measures of performance of primary PCI

Methods: Retrospective study of 291 consecutive STEMI patients (2004-2006) treated with transradial (67 pts) or transfemoral (224pts) primary PCI. Performance was evaluated as pain to balloon, door to balloon and fluoroscopy times, as well as the angiographic success rate .

Results. Radial pts were younger (57 ± 13 vs. 62 ± 13 y. ; $p<0.01$) but did not differ in terms of other clinical variables, number of diseased vessels, left ventricular function or the prevalence of cardiogenic shock. Radial patients had less complex lesions (78% vs. 88% $p=0.02$) and less use an IABP (5% vs. 17% , $p=0.03$) and. The pain to balloon time (285 ± 255 vs. 247 ± 222 min, $p=ns$), door to balloon time (76 ± 40 vs 75 ± 41 min, $p=ns$), fluoroscopy time (13 ± 11 vs. 11 ± 7 min, $P=ns$) and volume of contrast (149 ± 67 cc vs. 146 ± 70 cc, $p=ns$) were similar in both groups. (Radial approach pts had less access site bleeding complication (33% vs. 4% , $p<0.01$) including large hematoma (8.5 vs 1.5% , $p<0.01$). The angiographic success rate was similar (100% vs. 98% , $p=ns$). At one year a trend for lower mortality was observed in the group of radial pts (6% vs. 14% , $p=0.07$)

Conclusions: Once experience with the transradial approach is gained it can be routinely performed with no increase in treatment or fluoroscopy times. . The transradial approach is as effective as and substantially safer than the femoral approach for reperfusion in STEMI