08:30 - 10:30 S2 - ACSIS 2008 Hall B

Chairs: **H. Hammerman**
D. Tzivoni

08:30 **Outcome of Acute Coronary Syndrome Octogenarian Patients in Israel**
M. Shechter [1], A. Roth [2], S. Atar [3], V. Boyko [1,2], S. Behar [1,2], S. Matetzky [1]
[1] Tel Hashomer, [2] Tel Aviv, [3] Nahariya

08:45 **Clopidogrel Failure as a Prognostic Factor in Patients with Acute Coronary Syndrome (ACS): For The ACSIS 2008 Study Group**
E. Asher, H. Hod, M. Shechter, V. Boyko, S. Behar, S. Matetzky
Ramat Gan

09:00 **Characteristics, Management and Outcome of High Risk NSTE-ACS Patients Managed Medically**
S. Gottlieb [1,2], A. Roth [3], S. Atar [4], L. Kimron [2], S. Fuchs [6], M. Mosseri [5], S. Behar [2]
[1] Jerusalem, [2] Ramat-Gan, [3] Tel-Aviv, [4] Naharia, [5] Kfar-Saba, [6] Petach-Tikva

09:15 **The Characteristics and Outcomes of Non-ST-Elevation Acute Coronary Syndrome Patients Receiving Intravenous Narcotics – ACSIS-2008**
A. Porter [1,3], Z. Iakobishvili [1,3], A. Battler [1,3], S. Behar [2,3], A. Roth [3], S. Atar [4], V. Boyko [2,3], A. Mager [1,3], D. Hasdai [1,3]
[1] Petah Tikva, [2] Tel Hashomer, [3] Tel Aviv, [4] Nahariya

09:30 **Gender Differences in Demographics, Management and Outcome in Participants in the Registry of Acute Coronary Syndrome in Israel - Results of the ACSIS 2008**
Y. Shacham, A. Cohen, M. Benderly, S. Behar, S. Atar, S. Gotlieb, A. Roth
Tel Hashomer

09:45 **The Characteristics and Outcomes of ST-Elevation Acute Coronary Syndrome Patients Receiving Intravenous Narcotics – ACSIS-2008**
Z. Iakobishvili [1,3], A. Porter [1,3], A. Battler [1,3], S. Behar [2,3], A. Roth [3], S. Atar [4], V. Boyko [2,3], A. Mager [1,3], D. Hasdai [1,3]
[1] Petach Tikva, [2] Rama Gan, [3] Tel Aviv, [4] Nahariya

08:30 - 10:30 S2 - ACSIS 2008 (Cont.) Hall B

10:00 **Primary Angioplasty in Patients following Coronary Artery Bypass Surgery; Trends in Application and Outcome Results from the Acute Coronary Syndromes, Israel Survey (ACSIS) 2000-2008**

Y. Neuman [1], V. Boyko [2], S. Behar [2], M. Mosseri [1]
[1] Kfar Saba, [2] Ramat Gan

10:15 **Complete Revascularization in Multivessel Disease Patients Presenting with Acute ST-Segment Elevation MI**

Y. Elitzur, C. Danenberg, C. Lotan, R. Alcalai
Jerusalem

Outcome of Acute Coronary Syndrome Octogenarian Patients in Israel

Michael Shechter [1], Arie Roth [2,5], Shaul Atar [3], Valentina Boyko [4,5], Solomon Behar [4,5], Shlomi Matetzky [1]

[1] Leviev Heart Center, Chaim Sheba Medical Center and the Sackler Faculty of Medicine, Tel Aviv University, Tel Hashomer, [2] Department of Cardiology, Tel Aviv Sorasky Medical Center, Tel Aviv, [3] Department of Cardiology, Western Galilee Hospital, Nahariya, [4] Neufeld Cardiac Research Institute, Chaim Sheba Medical Center, Tel Hashomer, [5] The Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

Background: While patients ≥ 80 years old constitute the fastest growing segment of the population and have a high prevelance of coronary artery disease (CAD), few data are available regarding the outcome of octogenarians with acute coronary syndrome (ACS).
Methods: We evaluated in-hospital and 30-day clinical oucome of 1,766 patients [241 (14%) ≥ and 1,525 (86%) < 80 years old] from the Acute Coronary Syndrome Israel Survey (ACSIS), by analyzing data from ACS patients hospitalized in all coronary care units in Israel during a two-month period in 2008.
Results: ACS patients ≥ 80 years (mean age 85±4) had higher incidence of CAD risk factors, prior cardio-cerebrovascular events, chronic renal failure and cardiac medication use compared to patients < 80 years (mean age 60±11). Time from chest pain onset to hospitalization and myocardial infarction (MI) location were similar in both groups. Killip class on admission was higher, while left ventricular ejection fraction was lower in ACS ≥ compared to < 80 years. ST elevation MI (STEMI) on admission was more common in ACS patients < than ≥ 80 years (45% vs 32%). Throughout hospitalization ACS patients ≥ 80 years received significantly less single and/or dual antiplatelet therapy, angiotensin-converting enzyme inhibitors, β-blockers and statins, but more calcium blockers, nitrates and diuretic therapy, compared to those < 80 years.

	Age < 80 (n=1525)	Age ≥ 80 (n=241)	P value
Any PCI during hospitalization	1096 (72%)	124 (51%)	<0.01
IIb/IIIa antagonist use during PCI	511 (47%)	36 (29%)	<0.01
In-hospital mortality	23 (1.5%)	21 (8.8%)	<0.01
In-hospital major bleeding	22 (1.4%)	6 (2.5%)	NS
30-day MACE	179 (12%)	66 (27%)	<0.01
30-day mortality	37 (2.5%)	35 (14.8%)	<0.01

The in-hospital and 30-day mortality rates were significantly lower in ACS patients ≥ 80 years who underwent any PCI during hospitalization compared with those who did not (4.8% vs 13% and 7.2% vs 22.8%, p<0.01) and the use of IIb/IIIa antagonist did not increase major bleeding and/or mortality. Seventy-seven patients ≥ 80 years had STEMI: 37 (48%) underwent primary PCI (14 patients with and 23 without IIb/IIIa), while 36 (47%) patients did not. No significant major bleeding was observed between the groups. In-hospital and 30-day mortality rates were significantly lower in patients ≥ 80 years who underwent, compared with those who did not undergo primary PCI.
Conclusion: Octogenarians ACS patients have significantly worse in-hospital and 30-day outcome compared to those < 80 years. However, the low incidence of procedural complications, together with good in-hospital and 30-day survival, suggest that PCI in ACS octogenarians is safe and effective.

Clopidogrel Failure as a Prognostic Factor in Patients with Acute Coronary Syndrome (ACS): For The ACSIS 2008 Study Group

Elad Asher [1], Hanoch Hod [1], Michael Shechter [1], Valentin Boyko [2], Shlomo Behar [2], Shlomi Matetzky [1]

[1] Leviev Heart Center, [2] Neufeld Cardiac Research Institute, Sheba Medical Center, Sackler School of Medicine, Tel Aviv University, Ramat Gan, Israel

Objectives: Patients sustaining Acute Coronary Syndrome (ACS) despite chronic aspirin treatment, suffer from worse prognosis as compared to aspirin naïve patients, a phenomena designated "Aspirin Failure". Despite growing use of clopidogrel, there are no data regarding the prognostic significance of "clopidogrel failure".

Methods: The study comprised 1821 consecutive patients with ACS who were drawn from the ACSIS 2008 survey. Patients were followed-up for 30 days.

Results: Out of 1821 patients, 194 (11%) were treated with clopidogrel prior to the index ACS. They were older (66 Vs.63 years; $p< 0.01$), and were more likely to have diabetes, hypertension, dyslipidemia as well as prior cardiovascular history, including prior M.I, revascularization, CABG, PVD and CVA. They were less likely to present with STEMI (23% Vs 47%; $p < 0.0001$), and had smaller infarct size as manifested by lower peak CK (421 u/l ± 710 Vs 855 ± 1283 u/l $p < 0.0001$). Clopidogrel failure was associated with higher incidence of sub-acute stent thrombosis (2.9% Vs 0.8%; $p < 0.001$) and a trend towards higher 30 days MACE (19% Vs 14%; $p = 0.08$), but after controlling for differences in baseline characteristics by logistic regression which included propensity score for chronic clopidogrel treatment, clopidogrel failure was not an independent predictor of 30 days MACE (OR= 1.2 95%; CI 0.8-1.4, p=0.34).

Conclusions: Although "clopidogrel failure" patients were older and had higher risk profile, they had smaller infarcts, were less likely to present with STEMI and eventually did not showed worse prognosis.

Characteristics, Management and Outcome of High Risk NSTE-ACS Patients Managed Medically

Shmuel Gottlieb [1,2], Arie Roth [3], Shaul Atar [4], Lizie Kimron [2], Shmuel Fuchs [6], Morris Mosseri [5], Solomon Behar [2]

[1] Cardiology Department, Bikur Cholim Hospital, Jerusalem, [2] Neufeld Cardiac Research Institute, Tel-Hashomer, Ramat-Gan, [3] Cardiology Department, Soraski Medical Center, Tel-Aviv, [4] Cardiology Department, Galil Maharavi Hospital, Naharia, [5] Cardiology Department, Meir Hospiatl, Kfar-Saba, [6] Cardiology Department, Rabin Campus, Petach-Tikva, Israel, [7] Intensive Cardiac Care WG, IHS, Israel, [8] Interventional WG, IHS, Israel

NSTE-ACS pts presenting with ST-depression and/or positive biomarkers are considered high-risk subjects. Current guidelines based on contemporary randomized clinical trials recommend (class IA) use of coronary catheterization followed by revascularization (PCI or CABG) in these pts. However, selection bias has led to the avoidance of early invasive management in many high-risk pts. Contemporary randomized clinical trials evaluating new treatments for NSTE-ACS pts have placed less emphasis on medically managed pts.

Aim: To evaluate characteristics, management and outcome of high risk NSTE-ACS pts managed medically.

Methods: 2346 NSTE-ACS high risk pts (ST-depression and/or positive biomarkers) from ACSIS 2004-2008.

Results: 550 (23%) pts were managed medically. This rate declined from 44% in 2004 to 21% in 2008. Medically treated pts were older (53% >75 yrs), more often with a history of stroke (16%), chronic renal failure (34%), peripheral vascular disease (17%), heart failure (27%) and worse Killip class on admission (class >I, 41%), as compared with counterparts invasively treated pts. They received less often evidence-based medication (EBM). 30-day mortality was significantly higher in medically treated pts (10.4% vs. 2.4%, $p<0.0001$; OR=4.83, 95%CI 3.14-7.46). Among invasively treated pts, 50% underwent PCI, 10% CABG, 3% had normal coronaries, and 12% had significant disease but were not revascularized. 30-day mortality rates in these sub-groups were: 1.5%, 5.7%, 0%, and 4.2%, respectively.

Conclusion: Despite the increase in use of invasive strategy for high-risk pts with NSTE-ACS in recent practice, a significant proportion of these pts are still managed medically. They present with worse clinical characteristics, are less likely to receive EBM and have worse 30-day outcome, as compared to pts who underwent revascularization. Randomized clinical trials in this population are needed in order to achieve widespread implementation of contemporary therapies.

The Characteristics and Outcomes of Non-ST-Elevation Acute Coronary Syndrome Patients Receiving Intravenous Narcotics – ACSIS-2008

Avital Porter [1,5], Zaza Iakobishvili [1,5], Alexander Battler [1,5], Solomon Behar [2,5], Arie Roth [3,5], Shaul Atar [4], Valentina Boyko [2,5], Aviv Mager [1,5], David Hasdai [1,5]

[1] Cardiology Department, Rabin Medical Center, Petah Tikva, [2] Neufeld Cardiac Research Center, Sheba Medical Center, Tel Hashomer, [3] Cardiology Department, Sourasky Medical Center, Tel Aviv, [4] Cardiology Department, Western Galilee Hospital, Nahariya, [5] Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

Background: Recent NSTEACS guidelines have downgraded the recommendation for intravenous narcotics (IVN) use from I to IIa, based on a retrospective analysis of the CRUSADE registry, reporting increased in-hospital mortality. **Aim:** To characterize NSTEACS pts receiving IVN in ACSIS-2008 and to examine IVN impact on outcome. **Methods:** Retrospective analysis of 30d outcomes among NSTEACS pts based on IVN use, using logistic regression and propensity score analysis. **Results:** Of 993 pts, 97(9.8%) received IVN. IVN pts were more likely to have prior ischemic, revascularization, and heart failure hx and to smoke, and more likely to present with ≥Killip II (39.2% vs 10.0%) and ST depression. IVN pts more often received inotropes, diuretics, digoxin, aldosterone antagonists, and nitrates, and accordingly were more likely to have EF≤40% (39% vs 17%). In-hospital angiography and revascularization procedures were similarly performed. 30d death was similar for pts with and without IVN (3.2% vs 3.2%, respectively), as was 30d MACE of death, recurrent infarction and reischemia (16.5% vs 12.9%, p=0.33). Using propensity score analysis of 95 matched pairs, there was no difference in 30d death (2.2% vs 6.3%, p=0.16). Logistic regression analysis with adjustment for propensity score did not reveal difference for 30d death (OR 0.56 95 % CI 0.14-2.33, p=0.43), or MACE (OR 1.07, 95% CI 0.56-2.03, p=0.84). **Conclusions:** NSTEACS pts receiving IVN had higher-risk features, including heart failure, suggesting that the use of IVN is often for treatment of heart failure. Nevertheless, their outcomes were similar to non-IVN pts, refuting concerns for a deleterious effect.

Gender Differences in Demographics, Management and Outcome in Participants in the Registry of Acute Coronary Syndrome in Israel - Results of the ACSIS 2008

Yacov Shacham, Avshalom Cohen, Michal Benderly, Shlomo Behar, Shaul Atar, Shmuel Gotlieb, Arie Roth

on behalf of the Working Group on Intensive Cardiac Care and the Israel Heart Society, Neufeld Cardiac Research Institute, Sheba Medical Center, Tel Hashomer, Israel

Background: There has been increasing interest in gender differences in the presentation, management and outcome of patients with ACS.
Objectives: To compare and characterize gender differences in the management and outcome of ACS patients who participated in the bi-monthly biannual Acute Coronary Syndrome in Israel Survey (ACSIS) 2008.
Methods: Assessment of the ACSIS data on ACS patients for 2008.
Results: Selected epidemiological, clinical and outcome data are presented:

ADMISSION ECG	STE			NSTE		
	Female n=145	Male n=620	*P* value	Female n=217	Male n=776	*P* value
Age (median, years)	71	57	**0.001**	73	63	**0.001**
Previous MI (%)	22.1	23.3	0.82	29.6	40.1	0.005
Previous AP (%)	23.6	23.3	0.92	49.3	51.9	0.49
Prior PCI/CABG (%)	18.5	26.4	**0.03**	35.5	49.3	**0.003**
Diabetes (%)	31.7	28.8	0.48	53.5	40.2	**0.001**
HTN (%)	59.9	45.6	**0.001**	79.3	63.2	**0.001**
Smoker (%)	40.5	51.5	**0.001**	13.8	36.5	**0.001**
Typical Chest pain (%)	86.9	90.3	0.22	80.6	83.9	0.25
Time from onset to seeking help (median, minutes)	81	81	0.35	176	162	0.71
Angiography (%)	86.2	94.5	**0.001**	76	87.1	**0.001**
IIb/IIIA antagonist (%)	60.4	70.4	**0.047**	0	68.8	**0.025**
Plavix before PCI (%)	96.4	86.7	**0.014**	33.3	94.7	**0.003**
Subacute stent thrombosis	4.7	1.2	**0.029**	1.4	0.3	**0.033**
ASA (%)	94.1	98.1	**0.05**	96.3	97.8	0.21
Adj. 7-day mortality (%)	7.2	2.8	**0.029**	0.6	1.9	0.11
Adj. 30-day mortality (%)	7.4	4.9	0.47	4.2	2.8	0.35
Adj. 30-day MACE (%) (mortality/ non-fatal MI/UAP)	20.8	13	**0.049**	13.7	12.7	0.35

In addition, significantly more females in the STEMI group had free wall rupture (3.8%), tamponade (3%) and primary VF (6.2%) compared to males (0.6%, 0.5% and 2.6%, respectively). CHF of any class was significantly more common in non-STEMI females (21.3%) compared to males (10.4%).
Conclusions: The ACSIS survey data demonstrated that female patients with ACS were older and thus more often had concomitant diseases. They also received reperfusion therapy less frequently and generally had a poorer outcome.

The Characteristics and Outcomes of ST-Elevation Acute Coronary Syndrome Patients Receiving Intravenous Narcotics – ACSIS-2008

Zaza Iakobishvili [1,5], Avital Porter [1,5], Alexander Battler [1,5], Solomon Behar [2,5], Arie Roth [3,5], Shaul Atar [4], Valentina Boyko [2,5], Aviv Mager [1,5], David Hasdai [1,5]

[1] Cardiology Department, Rabin Medical Center, Petach Tikva, [2] Neufeld Cardiac Research Center, Sheba Medical Center, Rama Gan, [3] Cardiology Department, Sourasky Medical Center, Tel Aviv, [4] Cardiology Department, Western Galilee Hospital, Nahariya, [5] Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

Background: Current STEACS guidelines recommend intravenous narcotics (IVN) use (class I), although there are few data regarding its safety and concerns from reports of increased in-hospital mortality in NSTEACS pts receiving IVN. **Aim:** To characterize STEACS pts receiving IVN in ACSIS-2008 and to examine IVN impact on outcome. **Methods:** Retrospective analysis of 30d outcomes among STEACS pts based on IVN use, using logistic regression and propensity score analysis. **Results:** Of 765 pts, 261(34.1%) received IVN. IVN pts were younger and more likely to receive any form of reperfusion (79.7% vs 55.2%, p<0.0001), but there was no difference in the proportion of primary PCI as reperfusion modality (85.0% vs 88.9%). IVN pts received reperfusion more rapidly (73±66m vs 106±182m, p=0.02) and were more likely to undergo coronary angiography and revascularization. There was no difference in the distribution or patency of the infarct-related artery, or in adjunctive pharmacological and device use during primary PCI. 30d death was lower for IVN pts (3.1% vs 6.7%, p=0.04), as was 30d MACE of death, recurrent infarction and reischemia (11.1% vs 16.3%, p=0.05). Using propensity score analysis of 249 matched pairs, 30d death was lower (2.4% vs 6.2%, p=0.04), but not MACE (10.8% vs 13.3%, p=0.46). After logistic regression analysis, the difference in 30d death was not significant (p=0.09). **Conclusions:** A significant proportion of STEACS pts received IVN. These pts were often younger and more likely to undergo reperfusion. Their *adjusted* outcomes tended to be better, indicating that IVN use is safe and perhaps even beneficial.

Primary Angioplasty in Patients following Coronary Artery Bypass Surgery; Trends in Application and Outcome Results from the Acute Coronary Syndromes, Israel Survey (ACSIS) 2000-2008

Yoram Neuman [1], Valentina Boyko [2], Shlomo Behar [2], Morris Mosseri [1]

[1] *Cardiology Department, Meir Medical Center, Kfar Saba,* [2] *Neufeld Cardiac Research Institue, Sheba Medical Center, Tel Hashomer, Ramat Gan, Israel*

Background: Primary angioplasty is the treatment of choice in patients with acute myocardial infarction, however its application and outcome in post-CABG patients has not been thoroughly investigated. ***Methods***: Data was obtained from the Acute Coronary Syndromes, Israel Survey (ACSIS) for patients with STEMI. Baseline characteristics, management and outcome of post-CABG patients was compared to non-post CABG patients during 2006,2008 surveys. Percentage and outcome of patients undergoing angioplasty (post CABG compared to no-prior CABG) was obtained from the 5 surveys 2000-2008. ***Results***: Total number of patients during 2000-2008 surveys was 9781. 1002 (10.2%) were post-CABG (no significant change through the surveys, 8.6-11.3%). Reperfusion therapy for post-CABG patients was consistently lower (34- 48%) compared to non-post CABG (57%-65%). Primary angioplasty as the mode of reperfusion through the 5 surveys was 0%,37%,60%,70%,83% compared to 19%,44%,68%,77%,88% respectively. Angiographic outcome for patients with STEMI who underwent primary PCI (2006,2008 surveys) (17 post-CABG, mean age 66.6±9.1 and 821 non-post CABG, mean age 60.1±12.9). Successful outcome (TIMI flow 3) was 86% and 88% respectively. Thirty day mortality was 5.9% and 5.1% respectively (p=0.89). MACE rate was 17.6 and 12.5 respectively (p=0.54). ***Conclusions***: Application of primary angioplasty as the preferred mode of treatment for STEMI in post-CABG patients has increased during the past years and is approaching the rate in non-post CABG patients. Angiographic outcome of invasive treatment is equivalent in both groups despite more complicated anatomy and possibly larger thrombus burden post-CABG. Therefore, primary angioplasty is appropriate also in post-CABG patients presenting with STEMI.

Complete Revascularization in Multivessel Disease Patients Presenting with Acute ST-Segment Elevation MI

Yair Elitzur, Chaim Danenberg, Chaim Lotan, Ronny Alcalai

Cardioloigy Department, Hadassah University Medical Center, Jerusalem, Israel

Background Multivessel disease has been reported in 20-60% of patients undergoing primary PCI for STEMI. The finding of non infarct-related lesions has been found to confer a worse prognosis in these patients. In spite of this observation, it is not clear whether treating the "non-culprit" lesions would improve the clinical outcome and what is the best timing for intervention. Recently updated ESC guidelines recommend a policy of culprit-only intervention in all STEMI patients not in cardiogenic shock. However, this policy is still controversial.

Methods Data was collected from the 2008 ACSIS. We recorded the reported strategies for management of non-culprit lesions for patient presented with STEMI, defined clinical criteria and outcomes associated with different treatment strategies.

Results Of 423 patients who underwent primary PCI 245(58%) had multivessel disease. In 130(53%) only the culprit lesion was treated. In 106(43%) the non-culprit lesions were also treated as follows: 24(9.8%) at primary PCI; 30(12.2%) at a separate procedure in the index hospitalization and 52(21.2%) after discharge. Factors associated with a culprit-only strategy were previous myocardial infarction, previous PCI and LAD as the infarct-related artery as well as major bleeding complication during hospitalization. Renal failure was not associated with either strategy.

Non-culprit intervention at primary PCI was associated with cardiogenic shock only in 5(20%) cases. In this group there was higher 30-day MACE (33.7%) and 30-day mortality rate (16.7%) compare to 16% and 6% respectively in all multivessel STEMI patients.

Conclusion Treatment of non-culprit lesion for STEMI patients is recommended more frequently in cases of first event and non anterior wall STEMI. It seems that non-culprit intervention during primary PCI is associated with worse outcome and should be considered in the presence of ongoing ischemia or shock. Long term prospective studies are still needed to evaluate to indications for non-culprit interventions.