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58 **Cardiac Abnormalities in Anorexia Nervosa**

M. Yahalom [1,2], L. Sendler [1], M. Spitz [1], N. Heno [1], L. Even [1,1], R. Feldman [1], J. Varkel [1], N. Roguin [1,2], S. Atar [1,2]
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59 **Risk Factors of Drug Related Problems in Patients Undergoing Coronary Angiography**

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The Influence of Physical Strain During Caloric Deprivation on Cardiac Function in Extreme Military Training

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Aim: The study examined the combined effect of physical exertion and caloric deprivation on cardiac function in elite combat unit training.

Methods: 39 physically fit, healthy soldiers who participated in the training comprised the study population. The training lasted 85-100 hours during which time the soldiers participated in strenuous military exercises with no food intake. Anthropometric measurements, comprehensive echocardiographic examination and blood samples were taken before and immediately after the training.

Results: All soldiers had excellent cardiovascular performance (mean VO2 max 59 ml/kg/min). Participants' mean weight reduction was 5.7+/-0.95Kg. Following training all soldiers were relatively hypovolemic with significant increases in plasma urea (pre 32.6+/-7.4, post 44.2+/-10.7mg/dL, $p<0.001$), creatinine (1.1+/-0.1 to 1.4+/0.1mg/dL, $p<0.001$) and urine osmolarity (692+/-212 to 1094+/-140 mmol/Kg, $p<0.001$). Observed echocardiographic changes include a proportional decrease in mitral E and A wave inflow velocities, as well as tissue Doppler E' and A' of the mitral annulus with no change in E/A, E'/A' and E/E' ratios (table 1). There was no elevation in plasma Troponin T levels (all values< 0.01ng/mL). Surprisingly, post training BNP levels were significantly lower then baseline values (9.6+/-6.9 vs. 1.6+/-2.4pg/mL, $p<0.001$). BNP levels post training correlated with urea values post training. Change in BNP levels correlated positively with the change in weight and change in mitral E wave velocities.

Conclusions: In this elite group of soldiers, no adverse cardiac effects were documented despite significant metabolic and physiologic stress. The relative hypovolemia might have contributed to the observed decrease in BNP levels.

Parameter	Mean difference (post-pre)	P value
E mitral (cm/s)	-10.32	**<0.001**
A mitral (cm/s)	-4.72	**0.019**
E/A mitral	0.03	0.76
Deceleration time (msec)	-9.05	0.097
TD-derived lateral E' MV (cm/s)	-1.94	**0.003**
TD-derived lateral A' MV (cm/s)	-0.83	**0.010**
E'/A' mitral	-0.05	0.51
E/E' mitral	-0.11	0.46
TD-derived Lateral S' (cm/s)	-0.05	0.893

Impact of the Definition Utilized on the Rate of Contrast-Induced Nephropathy in Patients Undergoing Percutaneous Coronary Intervention: The Oxilan Registry

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Objectives: The Oxilan Registry is the first-ever prospective study evaluating the efficacy and safety of ioxilan (low-osmolar and low-viscosity contrast medium) including rates of contrast-induced nephropathy (CIN) assessed by multiple definitions, in patients undergoing percutaneous coronary intervention (PCI).

Methods: From July 2006 to June 2007, consecutive patients undergoing PCI utilizing ioxilan were enrolled. Serum creatinine (SCr) and estimated glomerular filtration rate (eGFR) were assessed at baseline and 3 to 5 days post-PCI. CIN was defined as: SCr increase ≥0.5 mg/dL, eGFR decrease ≥25%, SCr increase ≥25%, or the composite.

Results: Of 400 patients (age 62 ± 11 years), 19% were female, 37% diabetic, 22% anemic, and 8% had a history of congestive heart failure. Baseline SCr was 1.12 ± 0.3 mg/dL, and 24% had an eGFR <60mL/min. CIN rates were: 3.3% (SCr increase ≥0.5 mg/dL), 7.6% (eGFR decrease ≥25%), 10.2% (SCr increase ≥25%), and 10.5% (composite), depending upon the definition utilized. Hospitalization was prolonged in 3.4% of patients with CIN and none required dialysis. There were no deaths or severe allergic reactions. Non-ST-elevation myocardial infarction and repeat revascularization each occurred in 0.8%.

Conclusions: Ioxilan is effective and safe in PCI. In this unselected population, CIN ranged from 3.3% to 10.5% depending upon the definition utilized and was not associated with mortality or substantial morbidity, such as dialysis. The wide variation in CIN, as well as its lack of association with adverse outcomes, underscores the need for a standardized, clinically relevant definition.

Cardiac Abnormalities in Anorexia Nervosa

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Introduction: Anorexia Nervosa (AN) is a life-threatening condition, with a significant risk for death, due to cardiac complications.
Characterized by abnormal eating behavior with the prevalence of 0.5% to 1.0%. It affects predominantly adolescent girls, has the highest mortality rate of all psychiatric disorders, and has been associated with bradycardia, hypotension, mitral valve prolapse and heart failure.
The diagnosis of AN can be elusive and more than one half of all cases are undetected.
Purpose: to evaluate cardiac findings in AN.
Patients and Methods: 23 patients (20 females) with AN were examined in the last 3 years, including ECG, echocardiogram and Holter.
The mean age was 16 years (range 11.5-20), weight loss 13.5 kg (range 6-26), and BMI 15.4 (range 10.9-20). MVP was found in 3, mitral regurgitation (MR) in 4, and mild Aortic stenosis in one. 10 young adults (8 females and 2 males, mean age 15 years), without AN served as a control group.
Results: all patients had bradycardia (mean 44/min, range 26-68/min) documented by ECG and Holter. Findings were sinus and nodal bradycardia, with no evidence of arrhythmias, or QT interval prolongation. No patient needed pacemaker therapy. In the control group the mean slow heart rate was 74/min (range 66-99/min).
Conclusions: Bradycardia, in young adults, especially females with weight loss, should raise the possible diagnosis of AN, so it can be treated early and promptly in time.

Risk Factors of Drug Related Problems in Patients Undergoing Coronary Angiography

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Background: Drug-related problems (DRP) are a major cause of morbidity and mortality. Patients undergoing coronary angiography are often treated with complex therapy and are prone for DRP. The present study evaluated the frequency and types of DRPs in patients undergoing coronary angiography.

Methods and Results: 300 consecutive patients undergoing coronary angiography were interviewed and surveyed by a clinical pharmacist and a cardiologist. A total of 146 DRPs were detected in 100 patients (33.3%). Patients with DRPs were often treated with poly-pharmacy (7.7±3.0 vs. 6.1±1.9 drugs/patient in patients without DRP), less with beta blockers (82.5 vs. 68.0%, $p<0.01$) and with more antiglycemics (54 vs. 20.5%, $p<0.01$) and anti rejection agents (12 vs. 0%, $p<0.01$). The most common DRP was lack of prescribed drug for an unequivocal indication (40.4 %). Low dosage or frequency and drug regimes that are inappropriate to renal function were both present in 11.6%. There was no difference in DRP occurrence between ambulatory and hospitalized patients, as well as no gender differences. Twelve transplanted patients were included in this cohort with a rate of 2, vs. 1.39 DRP/patient in non-transplanted patients ($0.05<p$). The major DRP was again lack of prescribed drug (41.6%) followed by inappropriate dosing to renal function

***Conclusions*:** DRPs are common among patients undergoing coronary angiography. Risk factors to DRP, in addition to poly-pharmacy, are renal failure, diabetes mellitus and previous organ transplantation. Screening at the coronary cathlab for DRPs is simple, and with prompt intervention may be valuable in reducing drug-related morbidity and mortality.