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Aim: To investigate the basal relationships between GIP and biochemical parameters of liver function and the response to low-calorie diet and n-3 PUFA.

Methods: A total of 151 subjects (aged 48±11), including non-obese (BMI 28,04±1,37) and obese (BMI 34,59 ±3,47) were assigned to low calorie diet (1200 kcal/day) with n-3 PUFA (1800 mg daily) or placebo, for 3 months. GIP, TG, FFA, glucose, insulin following oral glucose tolerance test (OGTT) and oral lipid tolerance test (OLTT) and fasting lipids, ALT and GGT were measured.
Results: Positive correlations were found between ALT and basal GIP plasma level (r=0,33; p=0,0002), as well as GIP response to oral glucose, in terms of GIP level after 60min (r=0,20; p=0,0180) and AUC (r=0,176; p=0,0372). Patients ranged within the highest tertile of GIP (>33,76 pg/ml) represented higher ALT and GGT than patients ranged within 1st or 2nd tertiles [p<0,01]. ALT decreased after caloric restriction both in placebo [19 (7,9-12,2) *vs* 14 (7,0-10,9) p<0,05] and n-3 PUFA [18,7 (10,2-15,7) *vs* 15,7 (6,5-10,1) p<0,05] groups. The decrease in GIP response to OGTT was noticed only in n-3 PUFA group. Increased GIP secretion 2h following lipid load was associated with increased GGT (r=0,219; p=0,0135), and low-calorie diet (but not PUFA) affect GGT activity.
Conclusions: Our results indicate positive relationship between GIP level, and biochemical markers of hepatocyte injury due to fat accumulation. Supplementation with n-3 PUFA and low-calorie diet affect the GIP response.
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EAS-0567.
WAIST-HIP-RATIO, A BETTER INDICATOR OF RISK OF MYOCARDIAL INFARCTION THAN BMI IN A MEDITERRANEAN SOUTHERN EUROPEAN POPULATION

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Aims: To analyse measures of adiposity and risk of myocardial infarction (MI) in a Mediterranean European Population.

Methods: A total of 308 MI cases and 437 controls from the Maltese Acute Myocardial Infarction (MAMI) study had hip and waist circumferences measured per WHO guidelines. BMI and Waist-Hip Ratio (WHR) were analysed using WHO cutoffs. Odds ratios adjusted for common risk factors (adjOR) were calculated. Differences between groups were evaluated using the Kruskal-Wallis test.
Results: A similar median BMI between male cases and controls (29.2, 28.7, p =0.05) and a similar prevalence of obesity (41.4%, 38.2%) resulted in an AdjOR of 1.2 (95%CI 0.6-2.4). AdjOR was similar in females despite a higher prevalence of obesity in cases (52.9%, N=37) than in controls (32.8%, N=45). Waist circumference (0.94, 1.00, p<0.001) and WHR (1.00, 0.95, p<0.001) were higher in male cases than controls giving an adjOR of 2.6 (95% CI 1.7-4.1) and 6.4 (95% CI, 3.0-14.0) respectively. 95.6% (N=237) of cases had a high Waist-Hip Ratio compared to 73.5% (n=228) of controls. Females showed similar results. Amongst all controls, 23.5% (N=20) of normal BMI controls and 59% (N=111) of overweight controls had a high WHR. Conversely, 21.3% (N=35) of obese individuals had a normal WHR. A stratified analysis of WHR and BMI shows elevated AdjOR only in groups with high WHR.
Conclusion: BMI had no predictive value while WHR had a high predictive value for MI in the Maltese Population. BMI miscategorises high WHR individuals as being normal or overweight underestimating their risk.

EAS-0774.
EXPRESSION OF ABCA1 AND ABCG1 IN ADIPOSE TISSUE IS RELATED TO HUMAN OBESITY

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Abdominal obesity is associated with metabolic abnormalities and it is an independent risk factor for arteriosclerotic vascular disease. Adipocyte dysfunction in obesity is associated with intracellular cholesterol accumulation and alterations in cholesterol homeostasis. The cholesterol mobilization from adipose tissue is regulated via ATP-binding cassette transporters ABCA1 and ABCG1 that play a major role in reverse cholesterol transport and are considered as important targets for antiatherosclerosis treatment. However, the impact of *ABCA1* and *ABCG1* gene expression in visceral adipose tissue on obesity with regard to body weight variations is unknown.

The current study was aimed to investigate *ABCA1* and *ABCG1* gene expression in visceral adipose tissue of patients with abdominal obesity and controls.
The *ABCA1* and *ABCG1* gene expression in the visceral adipose tissue samples was measured by real-time PCR in a group of overweight/obese patients (BMI (kg/m^2) >25, N=23) and in a normal-weight control group (BMI (kg/m^2) <25, N=13). Visceral fat was received from gastrocolic omentum during laparoscopic cholecystectomy.
A significant increase in mRNA *ABCG1* levels in visceral fat from overweight/obese patients (median 1.79, min-max 0.09-12.85) compared with the control group (median 0.44, min-max 0.02-5.15) was observed (p=0.013). Changes in expression of *ABCA1* were not significant. In addition, our results showed a positive correlation between BMI and expression of *ABCA1* (r=0.52; p = 0.004) and *ABCG1* (r=0.59; p = 0.002).
Our results suggest that mRNA level of *ABCA1* and *ABCG1* genes in adipose tissue may be linked to visceral fat accumulation and have important implications in obesity.

EAS-0841.
NORMAL WEIGHT OBESITY IN RHEUMATOID ARTHRITIS: A SIGNIFICANT ATHEROSCLEROTIC RISK FACTOR

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Background and aim: Body mass index (BMI) does not estimate the amount of adipose tissue. De Lorenzo et al. (Nutr Metab Cardiovasc Dis 2006; 16; 8: 513-23) introduced the concept of normal weight obesity (NWO): BMI < 25 kg/m2 and whole body adipose tissue percentage > 30%. We aimed to diagnose NWO in a population with rheumatoid arthritis (RA).

Methods: cross-sectional design; female in-patients, either normal or classified with RA according to the 2010 ACR/EULAR criteria; measurements: classical anthropometrical indices, whole body composition using dual X-ray absorptiometry (Lexxos), estimated cardiovascular risk using high-risk SCORE charts; analysis: non-parametric tests in SPSS v.20 (Windows).
Results: We included 74 normal women and 76 RA women of which 24 RA patients (31.6%) had NWO while only 12 controls (16.2%) had NWO (p = 0.022, $\chi 2$ test). Compared to the RA women with BMI-defined