

Additionally to increased fat mass, insulin resistance is associated with total magnesium level in middle aged women.

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### PS137

#### Increased paraoxonase and arylesterase activity in thyroiditis patients compared to healthy individuals



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**Aim:** The aim of this study was to assess whether there is a significant difference in paraoxonase and arylesterase activities and distribution of phenotypes in thyroiditis patients compared to healthy volunteers.

**Introduction:** Human serum paraoxonase 1 (PON1; EC3.1.1.2) is an antioxidant enzyme showing both paraoxonase and arylesterase activities. The PON1-192 polymorphism has two isoforms, namely PON1 Q and PON1 R. PON1 Q contains a glutamine at position 192. PON1 R contains an arginine at position 192. It shows a 6 fold higher activity towards paraoxon hydrolysis compared to Q isoform. Arylesterase activity is similar in both isozymes. The R allozyme shows a greater degree of stimulation of its paraoxon-hydrolyzing activity by 1 M NaCl than does the Q allozyme. The ratio of Salt stimulated PON 1 activity/Arylesterase activity (P/A ratio) is trimodally distributed. The three modes correspond to paraoxonase phenotypes, QQ, QR and RR.

**Methods:** Fifty thyroiditis patients and one hundred and thirty seven apparently healthy individuals were enrolled in this study. Serum samples of both groups were analysed for basal paraoxonase activity, salt stimulated paraoxonase activity (with 1 M NaCl) and arylesterase activity (spectrophotometrically). P/A ratio was used to assess the phenotypes (dual substrate method).

**Results:** Basal PON 1 activity ( $205.27 \pm 115.00$  U/l vs.  $251.1 \pm 129.6$  U/l,  $p=0.002$ ) and arylesterase activity ( $159.53 \pm 37.11$  vs.  $177.59 \pm 46.90$ ,  $p=0.024$ ) was significantly higher in thyroiditis patients compared to healthy volunteers. Percentage of QQ phenotype was significantly higher in thyroiditis patients compared to healthy individuals. Percentage of QR phenotype was significantly lower in thyroiditis patients compared to healthy individuals. There was no difference in percentage of RR phenotype in thyroiditis patients and healthy individuals.

**Conclusion:** Serum PON 1 activity and arylesterase activity was significantly higher in thyroiditis patients compared to healthy individuals. Percentage distribution of phenotypes in thyroiditis patients was significantly different from healthy individuals.

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### PS111

#### The relationship between dyslipidemia and disease activity in Iranian population with systemic lupus erythematosus



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**Aim:** This study was designed for evaluating the relationship between dyslipidemia and diseases activity in systemic lupus erythematosus (SLE) patients.

**Introduction:** In spite of high prevalence of dyslipidemia in SLE patients and its role in patients' cardiovascular events, there was scant study about the relation between dyslipidemia and disease activity in SLE patients in Iran.

**Methods:** This analytical cross-sectional study was conducted during 2014–2016 on SLE patients who referred to the Hasheminejad hospital (Tehran – Iran). The serum levels of triglyceride, cholesterol, LDL, and HDL were measured, then dyslipidemia and correlated factors were evaluated. The activity of disease was determined by SLE disease activity index (SLEDAI).

**Results:** 62 out of 72 patients (87%) were female and the mean age was 34 years. The median disease duration was 1 year and 49% of patients had active disease (SLEDAI  $\geq 6$ ). Proteinuria and nephritis were observed in 18% and 24%, respectively. 62% of patients had at-least one abnormality in their lipid profile. High cholesterol ( $>200$  mg/dL), high triglyceride ( $>150$  mg/dL), high LDL ( $>130$  mg/dL) and low HDL ( $<50$  mg/dL in females and  $<40$  mg/dL in males) levels were observed in 25%, 42%, 20% and 49% of patients, respectively. Patients with active disease had lower age and disease duration in comparison of others ( $P < 0.05$ ), while there were no differences in terms of sex and weight between patients in active and inactive phases ( $P > 0.05$ ). The frequency of proteinuria, nephritis and decreased level of complements were higher in active SLE patients, too. Patients with active disease had also higher levels of serum cholesterol, triglyceride and LDL and lower level of serum HDL. In logistic regression, the odds ratios of patients with high cholesterol, using more than 10 mg/day prednisolone and with low serum HDL level for having active disease were 6.6, 5.6 and 3.4, respectively ( $P < 0.05$ ).

**Conclusion:** Our findings showed that dyslipidemia is prevalent in SLE patients especially in patients with active SLE disease. In addition, patients with high cholesterol, using more than 10 mg/day prednisolone and with low HDL had higher chance for having active disease. Hence, it seems that there is a relation between disease activity and lipid profile abnormalities in SLE patients.

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### PS168

#### Astrocytic A2A receptors: Novel targets to manage brain disorders



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**Aim:** To validate astrocytic adenosine A2A receptors (A2AR) as a novel target to prevent abnormal glutamate overexcitation.

**Introduction:** Astrocytes are responsible for clearance of extracellular glutamate, a process controlled by A2AR, extolling