

PP424 - EFFECT OF SELENIUM AND MYO-INOSITOL ON AUTOIMMUNE THYROIDITIS PROGRESSION

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Background. The most common cause of hypothyroidism is chronic autoimmune thyroiditis (Hashimoto's thyroiditis, HT), which affects 10% females and 2% males. Selenium is a cofactor of many selenoproteins which play essential functions in the human body including protection against oxidative stress, regulation of immune system, inflammation, metabolism and fertility. Selenium, as selenocysteine, is present in the catalytic site of enzymes involved in the protection of the thyroid cells from free radicals originating during thyroid hormone synthesis. Selenium is also present in some iodothyronine-deiodinases, catalyzing the activation and the inactivation of thyroid hormones. It has been demonstrated that selenium supplementation significantly reduces thyroid autoantibodies levels in patient with HT. Myo-Inositol, a precursor of phosphoinositide synthesis, is involved as second messenger in the TSH signaling pathway. Recent studies suggested that even the myo-inositol may have beneficial effects on thyroid function in the course of HT.

Aim of the study is to evaluate whether Myo-Inositol may enhance the protective effect of Selenomethionine, on HT progression to hypothyroidism.

Methods. The study was designed as observational and retrospective. Thyroid hormones, antibodies levels and ultrasound morphology were evaluated in patients with HT and subclinical hypothyroidism (with a TSH ranging 4-10 IU/mL). These patients were subdivided into three groups: one untreated, one receiving Selenomethionine (83 µg/day) alone (Se) and one Selenomethionine plus Myo-Inositol (83 µg/day + 600 mg/day) (Se + Myo). Outcome measures were performed at baseline and after 3, 6 and 12 months of treatment.

Results. In the present study we found that in accordance with previous results Selenomethionine treatment was beneficial on patients affected by subclinical hypothyroidism. Interestingly, co-treatment with Myo-Inositol improved Selenium efficacy. In particular, we observed a significantly lower TSH value in both treated groups in respect to untreated population. In addition, we found that in Se + Myo treated group TSH reduction was significantly higher ($p < 0,0001$ vs baseline) than Se treated group ($p < 0,03$ vs baseline). Moreover, TSH reduction was observed earlier in Se + Myo treated group (already at 3 months of supplementation) ($p < 0,0002$ vs $p < 0,1$).

Conclusions. Combined treatment Myo-Inositol plus Selenomethionine reduces TSH levels closer to physiological concentrations and more effectively than Selenomethionine supplementation alone.

PP425 - THE LACRIMAL GLAND HERNIATION ROLE IN THE GRAVES' ORBITOPATHY

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Background: Graves' orbitopathy (GO) is the most frequent and invalidating extrathyroidal expression of Graves' disease. The clinical GO manifestations are evident and severe in only 3-5% of patient and an early diagnosis has primary importance in GO management. The lacrimal gland (LG) involvement in patients with GO has been considered as a potential cause of the associated GO symptoms and different studies found that the LG measurements were significantly higher in patients with GO than healthy controls. However, no data are available about the difference in LC volume between patients with different GO activity.

AIM: To evaluate the LG involvement, through the measurement of the LG herniation by of magnetic resonance imaging (MRI), in patients with different GO activity.

Methods: Thirty-two consecutive Caucasian patients (10 M, 22 F, mean age 49.5, IR 30-68 yrs), affected by GO were enrolled and grouped in group A (n 16 with inactive GO, CAS<3) and B (n 16 with active GO, CAS≥3) according to their GO activity. All patients underwent to a clinical, biochemical and morphological thyroid assessment, a complete ocular evaluation and a MRI orbital examination.

Results: No significant difference was found for the hormonal parameters and thyroid ultrasound-derived parameters between the two groups. TRAb title resulted slightly higher, although not significantly, in group B [2.76 (0-40) vs. 1.74 (0-13.8) UI/L; $p=0.073$]. The LC herniation measurement MRI-evaluated was significantly higher in the group B for both right [10.1 (7-3-17) vs. 7 (0-13.4) mm; $p=0.004$] and left [8.5 (6.6-13) vs. 5.8 (0-12) mm; $p=0.026$] eye than group A. A linear correlation was found between TRAb title and LC herniation (Rho 0.462, $p=0.009$) in all patients.

Conclusions: The measurement of the LG herniation seems to be a good marker of the disease and GO activity, although further larger studies are needed to better understand this association.

PP426 - GRAVES' DISEASE ASSOCIATED WITH INFECTIOUS MONONUCLEOSIS IN A GERIATRIC PATIENT

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Graves' disease is a common autoimmune thyroid pathology associated with hyperthyroidism and various degree of diffuse goiter and ophthalmopathy. Though etiopathogenesis of Graves' disease for some respects is still uncertain, autoantibodies to TSH receptors (TSAb, *Thyroid Stimulating antibodies*) are suggested as playing a causative role in the disease.

Genetic and environmental factors are both believed to contribute to the development of Graves' disease.

Environmental factors include infection with bacterium *Yersinia enterocolitica* or viruses. The most frequently involved viruses reported in the literature have been enterovirus, influenza B virus, retrovirus and herpesvirus. However there have been only a few reports linking infectious mononucleosis to Graves' disease.

EBV (*Epstein Barr Virus*) is an ubiquitous human herpesvirus with worldwide distribution. Primary infection with EBV occurs usually in the young-adult but rarely also in elderly patients and typically presents as infectious mononucleosis, which has a benign course and most patients recover without sequelae.