

Thyroid autoimmunity in reproductive endocrin disorders

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OBJECTIVES

Thyroid autoimmunity (TAI) is the most common female autoimmune disorder of reproductive ages, with prevalence between 5-15%. TAI is related to increased anti-TPO level and hypothyreosis, decreased reproductive function, miscarriage and adverse pregnancy outcome.

We aimed to investigate the relation of TAI to reproductive endocrinology and infertility (REI) subgroups: hypothyreosis, endometriosis, premature ovarian failure (POF), anovulatory infertility and repeated pregnancy loss (RPL).

METHODS

285 patients referred to REI workup were screened for TAI by serum anti-TPO level. Relation between anti-TPO levels and age was investigated using correlation test and linear regression analysis.

We used case control analysis to calculate the relative risk of subclinical and overt hypothyreosis, endometriosis, POF, anovulatory infertility and RPL.

RESULTS

91 patient had elevated serum anti-TPO level (32%).

With regression analysis, a positive correlation was found between age and serum anti-TPO level ($r=0.38$, $p<0.5$), and over 20 a mean increase of 56.9 mU/L anti-TPO each year.

With case control analysis, TAI increased the risk of subclinical and overt hypothyreosis (OR: 6.69). The risk was twofold for endometriosis and POF in TAI positive patients (OR: 2.2 and 1.5), while slightly increased risk was found for anovulatory infertility and endometriosis (OR: 1.3 and 1.6).

CONCLUSIONS

TAI is common in patients visiting REI units, its prevalence increases with age. The relation of TAI to overt and subclinical hypothyreosis is strong and well documented, patients are naturally screened for these disorders. However, an increased risk of endometriosis, POF, anovulatory infertility and RPL also can be detected if anti-TPO level is elevated, thus screening for TAI should be added to diagnostic workup.

References

Kennedy RL, Malabu UH, Jarrod G, Nigam P, Kannan K, Rane A. Thyroid function and pregnancy: before, during and beyond. *J Obstet Gynaecol* 2010;30(8):774-83.

