Autoimmune thyroid disease and female reproduction.

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Reproduction can be affected by abnormalities in both endocrine and immune system. Thyroid autoimmunity is the most prevalent autoimmune pathology in women of reproductive age, up to 5-20% mainly in iodine sufficient areas. Women with thyroid autoimmunity and thyroid dysfunction often have menstrual irregularities, infertility and increased morbidity during pregnancy. Chronic autoimmune thyroiditis is the main cause of hypothyroidism during pregnancy. There is higher risk of overt and subclinical hypothyroidism during pregnancy in women who are positive for thyroid antibodies before conception. The prevalence of hypothyroidism during pregnancy is estimated to be 0.3-0.5% for overt hypothyroidism and 2-3% for subclinical hypothyroidism. The risk of early miscarriage is increased with thyroid autoimmunity, even if euthyroid before pregnancy. The current data regarding associations between thyroid autoantibodies and spontaneous or recurrent pregnancy loss and preterm delivery is convincing. However, the reduction of these complications by L-thyroxine is less robust. The prevalence of thyroid autoimmunity is significantly higher among infertile women, especially in endometriosis or polycystic ovary syndrome. Women with infertility should be screened for thyroid dysfunction due to the beneficial effects of L-thyroxine treatment (in case hypothyroidism) on menstrual cycle and fertility restoration, LH pulsatility and hyperprolactinaemia. Controlled ovarian hyperstimulation can severely impair thyroid function in women with autoimmune thyroid disease. Screening for thyroid function and autoimmunity should be performed after ovarian hyperstimulation and at onset of pregnancy, when autoimmune thyroid disease was initially detected. Autoimmunity is also a well established mechanism of premature ovarian failure- which can be associated with thyroid autoimmunity in up to 20%.

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