The analysis of publications concerning the understanding of the mechanisms at the present stage of formation of post-partum thyroiditis (PT) as an autoimmune disease was fulfilled. It was found that the rapid development of basic immunology over the past two decades has intensified research on autoimmune diseases, including autoimmune thyroid pathology, representative of which is the PT. It was stated that during pregnancy to save the mother's tolerance to the "alien" to the fetus require immunosuppression, and to fight against pathogens - sufficient activity of the immune system. An important mechanism for these requirements, it is recognized switching cytokine profile by activation in pregnancy Th-2 (humoral immunity) and T-regulatory cells (Treg) supporting immunotolerance, and decreased activity, producing pro-inflammatory cytokines Th-1 (IL-2, IFN-γ and TNF-α) and Th-17 (IL-17), which play a role in the induction of inflammation to combat pathogens. It was established the role of placental in provision with low cytolytic activity of natural killer (NK) and maturation of dendritic cells (DC), as well as hormones associated with pregnancy, emphasized progesterone; role in immunoregulation.

The Th-2 cytokine predominance, which exist during pregnancy in return to no pregnant Th-1:Th-2 ratios by 4 weeks postpartum. Such a rebound reaction with Th-1 activation of the immune response contributes to the development or aggravation of autoimmune pathology of a destructive nature, including PT.

Variants of the clinical presentation of the PT, the diagnostic value of individual indicators for the differential diagnosis of hyperthyroidism associated with Graves' disease, or PT were represented. PT allocated risk factors in women, the effects of which are and may become the basis for disease prevention.

On the basis of their own experience and publications argued the feasibility of supplementation selenium-containing drugs for PT prevention. The data on the positive dynamics of TPOAb levels, as well as indicators of cellular immunity (increasing the level of T-suppressors, reduced T-helper cells, B-lymphocytes and NK were represented). It indicates the presence of the positive experience of Italian scientists. They have shown for the first time that Se supplementation during and after pregnancy inhibits the progression of autoimmune chronic thyroiditis. Se
administration in the dosage of 200μg/d during pregnancy and the postpartum period exerted an anti-inflammatory action, reduced TPOAb titers, and ameliorated the US echodencity pattern with respect to controls. Se supplementation improved the course of the destructive thyroid gland process that occurs after parturition, reducing the incidence of PT and hypothyroidism. In addition, these treatments are not accompanied by adverse side effects on the mother and the child. Require further investigation to determine whether this beneficial effects are reverted as Se supplementation is stopped or whether they may be maintained for a long time if Se is continued.