Congenital Goiter in Goats and Their Respective Neonates: Clinical and Histopathological Study, with a Special Reference to the Mixed Hashimoto-Like Cases

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Abstract:

The aim of this study was to examine some 3 goats and their respective kids that affected by congenital goiter. Tissue samples were obtained from the enlarged thyroid gland for histopathology. Blood samples were collected to determine thyroid hormones, thyroid peroxidase antibodies (TPO) and anti-thyroglobulinantibodies (anti-TG). Electrochemiluminescence immunoassay (ECLIA), and chemiluminescence immunoassay (CLIA) were used to measure serum levels of thyroid hormones, including triiodothyronine (T3), tetraiodothyronine (T4), and thyroid stimulating hormone (TSH), as well as, anti-TPO, anti-TG antibodies. Histopathologically, the thyroid follicles show features of congenital goiter, including, hyperplasia, hypertrophy, foamy colloid. In goats and kids, the blood hormone analysis indicated mild hyperthyroidism, with very low level of TSH, and normal level of anti-TG antibodies and higher level of anti-TPO comparing especially in pregnant and non-pregnant goats comparing with calves. It concluded that there is sufficient evidence of Congenital goiter disease in these animals. However, further studies are still required to clarify the etiology and pathogenesis of the dise.

Keywords:

Thyroglobulin antibodies (anti-TG), Thyroid peroxidase antibodies (TPO), Autoimmune thyroiditis, Thyroid hormones, Thyroid gland, Hypothyroidism.