

Hormonal and Biochemical Alterations in Naturally Occurring and Induced Goitre in Camels (*Camelus dromedarius*)

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ABSTRACT

The present study constituted a detailed account of hypothyroidism (goitre) in camels. It comprised of a survey in three areas of Darfur State (Nyala, Idd Elfursan and Zalingei) and an experimental work which was conducted to induce hypothyroidism in camels using intramuscular injection of sodium thiocyanate (NaSCN). The results showed that camels from Nyala area had significantly ($P<0.05$) low means of serum total thyroxine (57.37 ± 18.3 nmol/l) and serum inorganic phosphorus levels, serum total triiodothyronine, total protein, albumin, globulin and unexpectedly a significantly ($P<0.05$) high creatinine concentrations compared with those of animals from the other two areas.

Administration of sodium thiocyanate resulted in a significant increase in serum thiocyanate ion concentration, which was accompanied by a significant decrease in serum total thyroxine and total triiodothyronine levels. The significant reduction in serum total thyroxine, total triiodothyronine, total protein, albumin, globulins and inorganic phosphorus concentration observed in experimentally-induced hypothyroid camels were comparable with the results obtained from camels surveyed in iodine deficient area (Nyala).

Keywords: Goitre, Camels, T3, T4, Sodium Thiocyanate