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Title of thesis : Clinico-therapeutic studies on canine endocrinopathies with special reference to diabetes mellitus  
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**ABSTRACT**

The present study was conducted on dogs presented at Teaching Veterinary Clinical Complex, CSKHPKV, Palampur (H.P.) between July 2021 and June 2022 to identify prevalent endocrinopathies, their epidemiology and to study the therapeutic response. The overall prevalence of endocrine disorders was 0.7 per cent (16/2276) with 0.44 per cent (10/2276) dogs suffering from diabetes mellitus, followed by hypothyroidism in 0.26 per cent (6/2276) dogs. Maximum no. of cases of diabetes (6/10) were recorded in old dogs (>5 years) and in winter season (5/10). Diabetes mellitus was most commonly prevalent in Labrador retrievers. The prominent clinical signs observed in diabetic dogs were polydipsia, polyuria, polyphagia, weight loss and lethargy. The mean fasting blood glucose (FBG) in diabetic dogs at the time of diagnosis was  $416.3 \pm 32.15$  mg/dl. In diabetic dogs, glycated haemoglobin (HbA1c) concentration was markedly high ( $11.15 \pm 0.87$  %) as compared to healthy dogs ( $4.35 \pm 0.19$  %). Significant hypertriglyceridemia and hypercholesterolemia along with significantly increased activities of alanine transferase and alkaline phosphatase were observed in diabetic dogs. Urine examination revealed hypersthenuria, glycosuria, variable ketonuria and leucocytes in urine samples of diabetic dogs. In diabetic dogs, Insulin treatment was given @0.5 IU/kg bwt s/c twice a day. Adjustments in the initial insulin dose were made in individual animals after generating serial blood glucose curve. Insulin treatment showed reduction in overt clinical signs of DM (polydipsia, polyuria, polyphagia, weight loss and lethargy), fall in FBG (50.54 percent) and improvement in haemato-biochemical parameters, at the end of 4 weeks treatment. Complications and concurrent disorders observed with diabetes included hypoglycaemia, Somogyi response, cataract, subclinical urinary tract infection, subclinical neuropathy and hepatic lipodosis. Insulin therapy along with dietary modification showed marked therapeutic efficacy and improvement in overall quality of life in diabetic dogs.

The major manifestations in hypothyroid dogs were heat seeking, obesity, polydipsia, alopecia, dull coat, hyperpigmentation and myxedema. Significant low T3, T4 and high TSH levels along with hypertriglyceridemia and hypercholesterolemia were major biochemical alterations in hypothyroid dogs. Therapy with levothyroxine @ 0.01 mg/kg bwt twice daily orally showed improvement in biochemical profile and clinical condition of hypothyroid dogs after 45 days of treatment.

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