TREATMENT OF CONGENITAL BILATERAL GOITRE IN A KID-A CASE REPORT

*N. Hassan, C. S. Randhawa and S. A. Hussian

Department of Veterinary Medicine, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab-141004, India

*Author for Correspondence

ABSTRACT

A kid with bilateral swelling on the ventral aspect of the neck was clinically examined and goitre was confirmed ruling out all other causes. Plasma T3 and T4 levels were determined wherein T3 level was very high and T4 level was found to be very low. Kid was treated with Levothyroxine sodium and iodized salts, showed marked reduction in the size of the thyroid gland after two month of treatment and the hormone levels were close to normal. The case was followed and there was complete recovery after few months.

Key Words: Goitre, Kids, Thyroid and Mortality

INTRODUCTION

Goitre is a non-inflammatory and non-neoplastic enlargement of thyroid gland. It can develop in all domestic mammals, birds and other vertebrates but is a common anomaly reported in goat kids mainly in endemic areas (Ani et al., 1998). The major factors responsible for thyroid gland enlargement include iodine deficient diets-primary goitre; goitrogenic compounds that interfere with thyroxinogenesis (brassica plants, soybean byproducts and water with high content of calcium and nitrates)-Secondary goitre, in rare cases excess of dietary iodine and genetically determined inherited enzyme defects responsible for biosynthesis of thyroidal hormones (Radostits et al., 2007). Congenital goitre has been observed mainly in newborn animals to dams on low iodine intake or failure to get dietary iodine and is of significance due to severe economic losses than in adults (Blood, 2000 and Sing & Beigh, 2013). A case of congenital bilateral goitre was reported and the treatment was aimed to assuage the clinical symptoms in a kid.

CASE HISTORY AND OBSERVATION

A 15 days old kid was presented with a history of bilateral swelling in ventral aspect of neck region, born to a goat whose other kids had died immediately after birth with similar history. As per owner with every passing day, there was an increase in the size of swelling. Suckling was normal but kid was weak and dull. Grossly, the thyroid glands were visible and palpable. On examination enlargement was found painless, no alopecia was evident but hair coat was rough. Auscultation and palpation of the neck area revealed the presence of clear thrill (pulsation). On clinical examination, rectal temperature and respiration rates were normal. Plasma T3, and T4, levels were determined in the kid where plasma T3 level was very high-21 nmol/L and plasma T4 level was very low-19 nmol/L, confirming the goitre case. Thyroid gland was submitted for further histopathological examination.

TREATMENT AND DISCUSSION

Treatment of the kid was started with Levothyroxine sodium (based on the plasma T3 and T4 levels) at the dose rate of 0.1 mg/day orally for 2 month. The owner was also advised to provide iodized salt in goat’s diet along with painting of teats with tincture of iodine once a day for fortnight. The plasma levels of T3 and T4 were again estimated after second month and it was found that the hormone values were moving towards normal. At this point Plasma T3 level was 9 nmol/L and T4 level was 39 nmol/L. The treatment was continued for few months until there was visible decrease in the size of the glands, then treatment was stopped and kid started to eat normal feed. Since mountainous and sub-mountainous regions in India are endemic belts of iodine deficiency, so in this case, iodine deficiency during pregnancy may be the cause and has particularly adverse effects like retardation of foetal development and dead or weak neonates with goitre (Vijlder, 2003). Levothyroxine sodium (Commonly used in human medicine) was found effective for treating goitre in kid with high T3 and low T4 levels, so it is equally important to monitor the plasma hormone levels before and after the treatment (Ozmen, 2005). The treatment schedule not only increases the T4 levels but also decrease plasma T3 level. Goitre in utero is caused due to either primary or due to secondary iodine deficiency (Maxi, 2007). Iodine cannot be synthesized in the body, therefore diet and plants are the primary sources of iodine (Bires et al., 1996). The possible cause in this case can be attributed to severity of diet related iodine deficiency (Kotwal et al., 2007). To prevent further loss in subsequent gestations, the emphasis was to provide additional iodine supplements to goat and to improve the condition of the kid.
CONCLUSION
The clinical case of congenital goitre in a kid was successfully treated with Levothyroxine sodium and iodine supplements and it was concluded that the possible cause may be due to diet related iodine deficiency in dam. So there is a need to further investigate the causes, prevalence and prophylaxis of congenital goiter in mountainous states where the soil is iodine deficient.

REFERENCES
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