

## **PREMATURE KIDDING DUE TO GOITROGENIC PLANT INTOXICATION IN BEETAL GOAT: A SPECIAL CASE**

**<sup>1</sup>M Honparkhe, <sup>2</sup>AK Ahuja\* and <sup>3</sup>P Dogra**

<sup>1</sup>Assistant Gynecologist, <sup>2,3</sup>M.V.Sc Scholar

Department of Veterinary Gynecology and Obstetrics, College of Veterinary Science,  
GADVASU, Ludhiana, Punjab-141004, India

E-mail: ankit.ahuja1947@gmail.com (\* *Corresponding Author*)

**Abstract:** Deficiency of iodine is common in goats and it can transmit vertically to the newborn. In the present case three premature live kids were delivered from two year old Beetal goat. Dam was having bilateral swelling in the cranio ventral neck region indicative of goitre. New born kids were also having large bilateral swelling in the Cranio-ventral neck region. Upon incision, the swelling revealed enlarged two symmetrical lobes of thyroid gland measuring 8.10 x 4.6 cm in size. They had difficulty in breathing, possibly caused by enlarged thyroid gland pressing the trachea. The case was usually different in the sense as 1) the kids born were premature and live, 2) there is vertical transfer of the goitre from mother to kid.

**Keywords:** Goitre, Vertical transmission, Cranio ventral.

### **Introduction**

Premature kidding with goitre is been reported previously by scientists and is regarded as a common anomaly in goats [Ani, et al., 1998]. A variety of anomalies of the thyroid glands have been described in goats, with the congenital goitre probably the most frequent [Vijlder et al., 1978; Rijnberk et al., 1977]. According to studies, rams are also responsible for inheritance of congenital goitre [Watson et al., 1962]. There is an evidence of congenital goitre in South African Boer goats [Vanjaarsveld et al., 1971]. Present case describes a goat with premature kidding due to deficiency of iodine.

### **Case history and Observations**

A two year old Beetal goat was presented in clinics with cloudy vaginal discharge from last evening and left with 15 days to complete the gestation. Animal was in second parity, first being normal, delivering two healthy kids a year ago. The goat was fed on normal green fodder. On examining the goat we found bilateral swelling on the cranio ventral neck region indicative of iodine deficiency, goitre (Fig I). After per vaginum exam, we found the cervix was relax and open two fingers and discharge was coming out continuously. After correlating the history and clinical finding we decided to go for induction of parturition.

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## Treatment

The goat was treated with 40 I.U Oxytocin diluted in 500 ml of DNS, 5 ml Dexamethasone I/V, 10 ml Calcium I/M and 5 ml Neurobion. After the treatment, cervix became more relaxed and dilated. After adequately lubricating the birth canal with Carboxy Methyl Cellulose gel (80 gm/litre), we started assisted the straining goat and take out one premature live foetus with bilateral swelling on the cranio-ventral region of neck (Fig II). The swelling was continuously pressing the trachea leading to difficulty in breathing for new born kid. The kid survived for half an hour. After 15 minutes of delivering first kid there was assisted delivery of two more kid with same kind of bilateral swelling on the cranio ventral neck region (Fig. III).

New born kids were devoid of hair and struggling to breathe. Macroscopically, the swelling was dorso-ventrally flattened, firm in consistency when palpated measuring 8.10 x 4.6 cm in size. Kids did not survive and died after 20 minutes. The dam was put on antibiotic cover. Owner was advised to give mineral mixture to the goat for about one month and also use common salt (iodised) in the green fodder.

## Result and Discussion

Goitre is a common condition found in goats and sheep. After enquiring about the diet schedule of goat from the owner, it is confirmed that feeding of Subabul (Deficient in iodine) has led to the condition. Congenital goitre can occur due to continuous feeding of diets deficient in iodine like Subabul (*Leucaenaleucocephala*) [Sastry and Singh, 2008]. The major toxic principle of Subabul is non-protein free amino acid i.e. Mimosine. After ruminal degradation of Mimosine it yields 3 – hydroxyl – 4 (1 H) – pyridone (3,4 di hydroxy pyridine; 3,4 DHP) which is a potent goitrogen and mimosine itself also acts as depilatory agent [Reddy et al., 2016]. Since all three kids born were devoid of hair which indicates the functional aspect of mimosine. The differential diagnosis from tumorous growth was done by morphologically and microscopically. Where in tumorous growth the mass would be more congested and firm to palpate and microscopically shows the intense diffuse hyperplasia.

Goitre can be managed easily by using iodised salt in the feed or else using mineral mixture as a feed supplement. The vertical transmission of goitre was seen in almost every pregnant goat. The chances of survival of kid can be increased if the problem is looked well in time and the mother was given proper necessary mineral supplemented diet. In a study indicates supplementation of Lugol's iodine in drinking water during the last month of

gestation can also help the farmer to avoid iodine deficiency and such animals had normal kidding [Reddy et al., 2016].

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Fig I Enlargement of thyroid gland morphologically



Fig II Symmetrical Ventral Bilateral swelling in the neck.



Fig III: Three premature kids with symmetrical bilateral ventral swelling.