

DOUBLE TONGUE IN A BUFFALO CALF

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ABSTRACT

A new born male buffalo calf was presented with two double tongue, hanging one on either side of outgrowth from base of the mouth. The outgrowth had few small teeth like structures over it. The head of the calf was relatively longer than body. There was no other associated congenital anomaly. The case was managed by surgical excision of one tongue and outgrowth.

Keywords: *Bubalus bubalis*, double tongue, Bifid tongue, congenital, buffalo, calf

INTRODUCTION

Structural and functional deformities in new born calves are caused by hereditary and environmental factors (Leipold and Dennis, 1986). Developmental defects may be lethal, semi-lethal, or compatible with life causing aesthetic defects or having no effect on the animal (Johnson *et al.*, 1985). The accessory tongue is very rear anomaly both in humans and animals (Kübra, 2009). The tongue is formed by the fusion of three structures in the embryonic period. By the end of the fourth

week, the anterior two-thirds of the tongue (oral part) develop from 2 distal and 1 median (tuberculum impar) tongue buds. These buds arise from the proliferation of the mesenchymal tissue of the first pair of pharyngeal (branchial) arches. The posterior, pharyngeal one-third of the tongue derives from two structures: the copula and hypobranchial eminence. These regions arise from the proliferation of the mesenchymal tissue of the 2nd, 3rd and 4th pairs of pharyngeal arches. Following the formation of the tuberculum impar, two lateral swellings appear at both sides of the first pharyngeal (branchial) arch, which extend into the centre of the primary oral cavity. These are named the tuberculae linguae laterales. The lateral lingual structures develop rapidly and gradually cover the tuberculum impar. The three structures fuse to form the free part of the tongue which has the ability to move within the oral cavity. Generally the free part of the tongue derives from the tuberculum linguale laterale (Emmanouil *et al.*, 1992). Any defect that occurs during the embryonic development in this period leads to various malformations. Double tongue results from the development of the tongue from the lateral swelling (tuberculum linguale) in two parts (Bartholdson *et al.*, 1991; Emmanouil *et al.*, 1992). To date, cases of double tongue in animals have been reported in a calf (Orhan, 2001;

Kübra *et al.*, 2009), miniature donkey (Farmand and Stohler, 1990) and foals (Rifai *et al.*, 2006)

CASE HISTORY AND OBSERVATIONS

A new born male buffalo calf was presented to the polyclinic I.V.R.I, Izatnagar, Bareilly, Uttar Pradesh, India. Calf was not able to suck milk from the dam. Physically two tongues (bifid/ double tongue) were hanging on either side of outgrowth from base of the mouth (Figure 1). The out growth had few small teeth like structures over it. The head of the calf was relatively longer than body. There was no other associated congenital anomaly. The case was managed by surgical excision of one tongue and outgrowth at the point where they were attached with the common base.

SURGICAL TREATMENT

The animal was sedated with diazepam (slow IV 0.2 mg/kg body weight). Linear infiltration with 2% Lignocaine hydrochloride at the base of accessory tongue and at the base of outgrowth was done to provide local anaesthesia. Radical excision of the outgrowth was done by sharp incision followed by blunt dissection. Through and through sutures were placed at the attachment of the accessory tongue with the common base and glossectomy of the accessory tongue was done.

Post operatively broad spectrum antibiotics and analgesics were administered. Antiseptic mouth washes were used for 10 days. The calf was given intravenous dextrose for first 3 days and drenched with dam's milk till dysphagia got relieved.

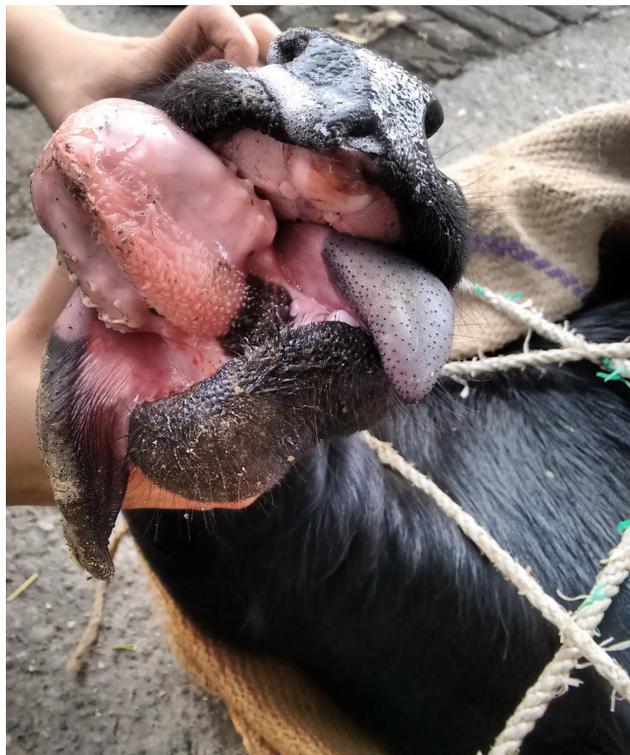


Figure 1. Two tongues hanging on either side of outgrowth from base of the mouth.

DISCUSSION

In domestic animals, congenital anomalies present themselves in various types and severities (Warkany, 1975). The most frequently encountered anomalies are those of the skeleton-musculature, and digestive and central nervous systems, whereas disorders of the urogenital system, eyes and skin occur less frequently. The accessory tongue is one of the rarest congenital anomaly encountered in humans and animals (Britto *et al.*, 2000; Mallika and Shukla, 2007; Rifai *et al.*, 2006). To date, cases of double tongue in animals have been reported in a calf (Orhan *et al.*, 2001), miniature donkey (Farmand and Stohler, 1990) and foals (Rifai *et al.*, 2006). To the author's knowledge, no case of double tongue has been reported in buffalo. The cases are manageable with simple surgical excision and the defect repaired with vicryl stitches (Emmanouil and Kerameos, 1992), as in our case. The surgical excision relieves dysphagia

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