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Surgical management of congenital unilateral macrostomia in a male buffalo calf: A case report

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Abstract
A five-day-old male buffalo calf was presented to the Veterinary Clinical Complex, VCRI Namakkal with a history of lateral deviation and rolling of the tongue on the right side of oral cavity since birth. Oral cavity examination revealed the incomplete closure of right side buccal commissure. The case was diagnosed as congenital unilateral incomplete closure of right commissure. The animal was undergoing reconstructive surgery and postoperatively maintained with antibiotics and anti-inflammatories. The animal had recovered successfully.

Keywords: Congenital, oral commissure, buffalo calf

Introduction
As the population of food-producing animals continues to grow annually, even a low occurrence of congenital anomalies in these ruminant species results in a notable number of affected animals (David *et al*., 2010) [3]. These anomalies involve one or more systems and encompass structural and functional irregularities within interconnected systems that are present from birth (Badaway, 2011) [1]. Various facial deformities affecting the lips, jaws, and palate have been documented in diverse animal species (Brown *et al*., 2007) [2]. This current case study presents a description of a buffalo calf born with unilateral congenital macrostomia.

Case History and Observations
A five-day-old male buffalo calf was presented to the Veterinary Clinical Complex, VCRI Namakkal with a history of lateral deviation and rolling of tongue on the right side of oral cavity since birth. Examination of oral cavity revealed, rolling of tongue was due to improper closure of oral commissure on the right side (Fig 1). The vital parameters are within the normal range. No signs of salivation and aspiration were noticed.

Treatment & Discussion
The surgical area was prepared aseptically and animal underwent for general anaesthesia of Ketamine and Diazepam @ 2-4mg/kg and 0.25-0.5mg/kg respectively. The affected unilateral right side oral commissure was extended about an inch to scarify the skin around the commissure (Fig 2). Then, they are further sutured with non-absorbable suture material to bring the edges together. Skin was closed as routine procedure (Fig 3). The animal was administered with Inj. Tetanus Toxoid, antibiotics and anti-inflammatory. To prevent further complications, animal was maintained with liquid diet, oral muzzle and topical ointments. Animal was recovered successfully.The goal of surgically addressing this transverse cleft or congenital macrostomia is to achieve both pleasing aesthetics and improved functionality of the orbicularis muscle (Srikanth Gunturu *et al*., 2014) [7].
Congenital facial defects could arise from genetic abnormalities, environmental factors, or a combination of both (Shukla *et al*., 2007) [6]. The normal positioning of the tongue (linguae) is within the oral cavity.

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However, the failure of the maxillary and mandibular prominences of the first branchial arch to unite can lead to congenital macrostomia (Tesseir, 1976) [8], a rare facial developmental anomaly characterized by an enlarged mouth and extended lips (Rohit Kumar *et al*., 2019) [5]. In cases where it occurs unilaterally, transverse facial clefts are more frequently found on the right side of the face, with males being more affected than females (Srikanth Gunturu *et al*., 2014) [7]. To address this condition, corrective techniques such as Z-Plasty, overlapping muscle closure, and linear scar contraction have been recommended to prevent deformity (Kaplan, 1981) [4]. Clinical manifestations associated with macrostomia encompass an inability to retain the tongue within the oral cavity, difficulties in feeding, and excessive salivation (Vivek Malik *et al*., 2020) [9]. Surgical interventions can lead to complications like uneven closure, hypertrophic scarring, drooping of the oral commissure, and a "fish mouth" deformity due to weakened commissure muscles (Srikanth Gunturu *et al*., 2014) [7].

Fig 1: Deviation of tongue on right side of oral commissure

Fig 2: Scarification of oral commissure on right side

Fig 3: Suturing the mucosa to mucosa edges together

Conclusion

A unique instance of congenital unilateral macrostomia was presented, which underwent reconstructive surgery. While many congenital defects necessitate immediate surgical attention, certain defects might become significant during the production or reproduction stages. It is recommended that animals afflicted with congenital defects not be used for breeding purposes, yet timely surgical intervention can enhance their chances of survival.

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