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Congenital ankyloglossia and its surgical correction by horizontal to vertical frenuloplasty in an ongole calf

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Abstract
A, three months old, female Ongole calf was presented to Department of Veterinary Surgery and Radiology, College of Veterinary Science, Proddatur with a history of inability to move tongue and difficulty in chewing hay. Physical examination revealed complete attachment of togue to the base of oral cavity. Based on history and clinical findings, the condition was diagnosed as complete Ankyloglossia and was surgically corrected using horizontal-to-vertical frenuloplasty technique, which resulted in a good clinical outcome.

Keywords: Congenital ankyloglossia, Ongole calf, frenuloplasty, good clinical outcome

Introduction
Ankyloglossia, also known as Tongue-tie, refers to a partial or complete fusion between the tongue and the base of oral cavity (Morita *et al*., 2004) [5]. A complete attachment of the frenum linguae to the floor of the tongue restricts tongue movement and causes difficulty in eating and swallowing (Anwar and Purohit, 2012) [1]. This condition develops due to the developmental anomaly of lingual frenulum, a connective tissue band that normally appears as a thin longitudinal line under the midline of the tongue. Frenuloplasty is the surgical procedure commonly employed to correct this condition (Kilic, 2011) [3]. This report describes ankyloglossia and its successful surgical correction in a female ongole calf.

Case history and clinical observations
A, three months old, female, Ongole calf weighing 49 kg was presented to Department of Veterinary Surgery and Radiology, College of Veterinary Science, Proddatur with a complaint of inability to feed on concentrate mixtures and difficulty in chewing hay. History revealed that calf was recently weaned and had no difficulty in suckling milk since birth. Physical examination showed poor body condition with signs of dehydration. Oral examination revealed a short frenum linguae with complete adhesion of tongue to the base of the oral cavity. The tip of tongue was adhered to gingival tissue, just caudal to the central incisor teeth. (Figure 1 & 2). There was Noticeable difficulty in exteriorization of tongue due to its complete attachment to the floor of oral cavity. Based on history and clinical examination, the condition was diagnosed as Ankyloglossia and the animal was prepared for the surgical correction.

Surgical technique
Frenuloplasty was performed under general anaesthesia, using intramuscular injection of Xylazine @ 0.01mg/kg as pre anaesthetic. Induction and maintenance of anaesthesia were achieved with a combination of Inj. Ketamine @ 5mg/Kg and Inj. Diazepam @ 0.5 mg/kg b. wt. intravenously. The calf was positioned in lateral recumbency and oral cavity was prepared for aseptic surgery by painted with chlorhexidine solution. The mouth was held open to expose the tongue, which was retracted dorsally.

Prior to the excision of the attachment, sutures were placed through the adhered frenulum in a horizontal manner and excised the attachment below the sutures to avoid the haemorrhage. The first incision began at the tip of the tongue near its attachment to the gingival tissue and was performed using electrocautery (Figure 3). The incision was extended posteriorly until sufficient release of the tongue allowed protrusion well beyond the lower incisor (Figure 4). The incision wound was closed by vertical sutures using no.2-0 polyglactin 910.

Post operatively, the animal was administered Inj. Amoxicillin and Potassium clavunate @ 25 mg/kg and Inj. Meloxicam @ 0.3 mg/kg for 5 and 3 days, respectively. Owner was instructed to paint honey and chlorhexidine mouth wash to the oral cavity to promote healing and maintain oral hygiene.

Discussion

The animal recovered satisfactorily and resumed normal feed and fodder intake by the 20th post-operative day.

Ankyloglossia is a general term that describes a group of congenital anomalies characterized by limitation of tongue movement (Messner and Lalakea, 2000) [4]. In humans, this condition manifests in two forms, superior ankyloglossia (where tongue tip attaches to the hard palate) and inferior ankyloglossia (where the tongue attaches to the lingual frenulum) (Wright, 1995) [8]. Partial inferior ankyloglossia has been reported in a goat (Nair and Bandyopadhyay, 1994) [7], dog (Kilic and Sarierler, 2004) [2] and a calf (Mouli, 1993 and Kilic, 2011) [6 & 3]. Most clinical signs of the ankyloglossia are due to restricted tongue movement, resulting in difficulties with feeding, swallowing and in maintaining oral hygiene (Anwar and Purohit, 2012) [1] as observed in the present case. In humans, frenotomy (simple release of the lingual frenulum) and frenuloplasty (release with plastic closure) are the most commonly used surgical techniques for treatment of ankyloglossia. These techniques are employed to increase the tongue mobility in cases of ankyloglossia. In veterinary medicine, V-shaped frenuloplasty (Kilic and Sarierler, 2004) [2] and horizontal to vertical frenuloplasty (Anwar and Purohit, 2012) [1] were most commonly used. Delay in surgical correction leads to the poor condition of the animal which might be due to the insufficient nutrition and death may occur in neglected cases.

In the present case, the horizontal-to-vertical frenuloplasty was performed according to Anwar and Purohit, 2012 [1] which resulted in a favourable clinical outcome and uneventful recovery of the calf post operatively.

Fig 1: Attachment of tip of tongue to the gingival tissue caudal to central incisors cavity

Fig 2: Thin tissue band between ventral surface of tongue and floor of the oral cavity

Fig 3: Incising the attachment using electrocautery

Fig 4: Protrusion of tongue beyond the lower incisors after horizontal to vertical frenuloplasty

Conclusion

The case highlights the successful diagnosis and surgical correction of complete congenital ankyloglossia in an Ongole calf using the horizontal-to-vertical frenuloplasty technique. The procedure effectively restored tongue mobility, enabling the calf to resume normal feeding by the 20th postoperative day. This report demonstrates the practical relevance of early detection and timely surgical intervention in preventing malnutrition, dehydration, and growth retardation in young animals with tongue-tie. The technique proved simple, effective, and suitable for field conditions. Future scope includes studying long-term outcomes of different frenuloplasty methods, documenting larger case series across species, and improving early diagnosis through awareness among veterinarians and livestock owners.

Conflict of Interest

Not available

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Reference

1. Anwar S, Purohit GN. Ankyloglossia and its surgical correction by frenuloplasty in a she-camel calf (*Camelus dromedarius*). Open Vet J. 2012;2:23-5.
2. Kilic N, Sarierler M. Surgical correction of a congenital ankyloglossia in an Anatolian shepherd dog. Indian Vet J. 2004;81:1271-1272.
3. Kilic N. Surgical correction of a congenital partial ankyloglossia in a calf. Iran J Vet Res. 2011;12:357-359.
4. Messner AH, Lalakea ML. Ankyloglossia: controversies in management. Int J Pediatr Otorhinolaryngol. 2000;54:123-131.
5. Morita H, Mazerbourg S, Bouley DM, Luo CL, Kawamura K, Kuwabara Y, *et al*. Neonatal lethality of LGR5 null is associated with ankyloglossia and gastrointestinal distention. Mol Cell Biol. 2004;24:9736-9743.
6. Mouli SP. Surgical correction of congenital glossa-frenata in an Ongole breed bull calf. Indian Vet J. 1993;70:449.
7. Nair NR, Bandopadhyay AC. Thyroglossal cyst below the base of tongue with ankyloglossia in a kid. Indian Vet J. 1994;71:279.
8. Wright JE. Tongue-tie. J Paediatr Child Health. 1995;31:276-278.

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