SURGICAL MANAGEMENT OF SALIVARY FISTULA IN CATTLE

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Received 20-9-2014 Accepted 10-12-2014

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Trauma and occlusion of stenson's duct occur infrequently in cattle, buffalo and camels (Tyagi and Singh. 2006). The occlusion of the oral opening of the duct by the feed particle may cause its distension due to impediment in the flow of the saliva ultimately causing rupture of the duct.There were also reported cases of obstructive sialolithiasis in animals which give rise to salivary cysts (Joshi *et al.* 2003, Ali *et al.* 1978 and Barvalia *et al.* 1992). The leakage of the saliva into the surrounding tissue along with local tissue reaction may lead to development of the swelling in the region. The condition often referred to as salivary cyst. Salivary cysts are mainly acquired in origin but rarely, it can be congenital. Standard treatment of salivary cyst like destruction of parotid gland or radical excision of the parotid gland has limitation of re-occurrence and risky surgery respectively. More over both methods possess the risk of xerostomia. So another alternative was tried in present study for management of salivary cysts to overcome above mentioned limitations.

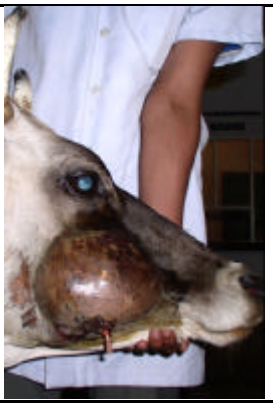
HISTORY AND CLINICAL EXAMINATION

The procedure was done on three animals. One 4 months old female calf with congenital salivary cyst (Fig 1) and two 4 and 6 years old cows were presented with acquired salivary cyst to Veterinary teaching clinical complex of the DGCN College of Veterinary and Animal Sciences, Palampur. In first case circumscribed non-painful 3 inch fluctuating swelling on left cheek was seen on clinical examination. Paracentesis revealed mucoid fluid having pH greater than 7. Second case was presented with re-occurrence of salivary cyst which was treated for acquired salivary cyst with repeated 4 injections of irritants (Lugol's iodine) in parotid gland through catheter placed in Stenson's duct at 3 days apart. But condition recurred within a month. Third case was presented with large circumscribed painful swelling on right cheek from last 1 month. Paracentesis revealed mucoid fluid with pH greater than 7 and was diagnosed with acquired salivary cyst.

Figure 1: Case Presentation

4 months old female calf

6 years old cow

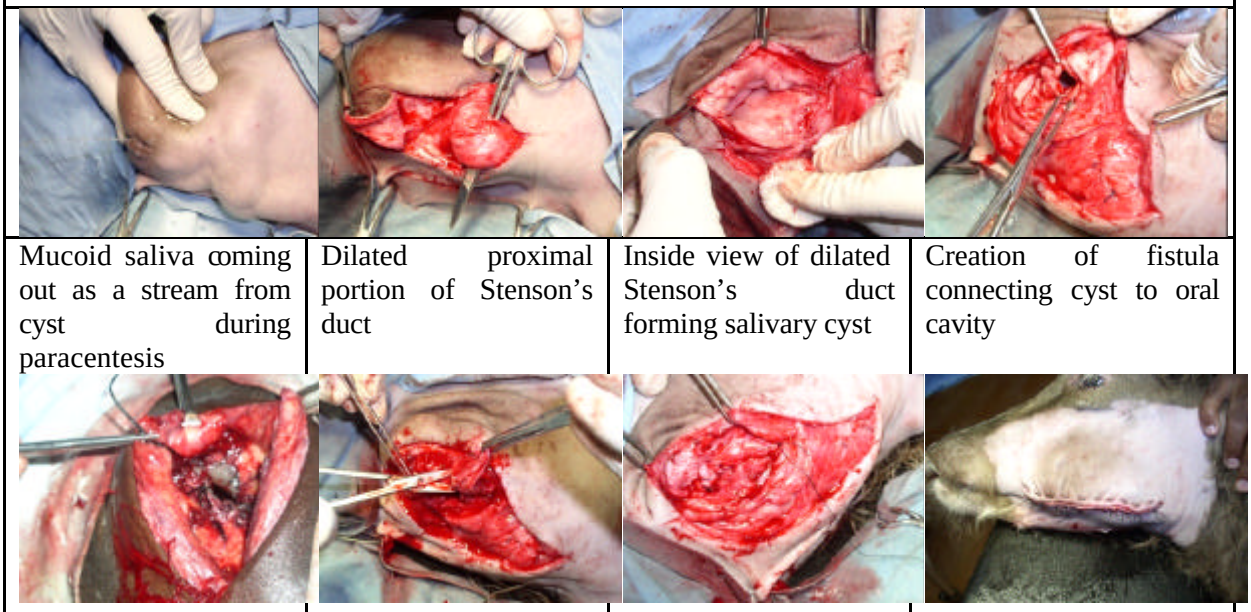


4 years old cow

Treatment and discussion

Surgical correction was done to create intraoral fistula in cystic tract at the level of upper III premolar to I molar (Fig 2). Longitudinal incision was given in the dilated stenson's duct and the duct was exposed and opened. Then a fistula was created at the level of upper III premolar to I molar. Further the oral mucosa was sutured with cystic mucosa of the Stenson's duct with interrupted sutures in a manner leaving 1 cm circular opening in centre. Reconstruction of Stenson's duct was done after excision of superfluous portion of dilated duct and the surgical wound was closed routinely. All animals recovered well, with occasional recurrence of mild swelling in the immediate post-operative period in case 1 and 2, which however, could be resolved each time by gentle massaging over site. No problem was reported till 3 year after surgery in all three cases.

Fig 2: Representative Intra and Post-Operative Photographs



Mucoid saliva coming out as a stream from cyst during paracentesis	Dilated proximal portion of Stenson's duct	Inside view of dilated Stenson's duct forming salivary cyst	Creation of fistula connecting cyst to oral cavity
Suturing cystic mucosa to oral mucosa in an interrupted manner leaving 1 cm circular opening in centre	Excision of superfluous portion of Stenson's duct forming cyst	Reconstruction of Stenson's duct after excision of superfluous portion	Final appearance of surgical site

Discussion:

Abhishek *et al.* (2006) reported a case of salivary cyst in crossbred cattle which was treated by destruction of parotid gland by potassium permanganate crystals and later by tincture iodine solution. In this case one side of parotid gland is totally destroyed so there are high chances of xerostomia later in life which can be easily prevented with present technique of repair of salivary cyst. So, in conclusion,surgical creation of a fistula connecting salivary cyst and oral cavity should be the first line of treatment in cases of retention salivary cysts involving Stenson's duct in bovines to minimize the chances of Xerostomia. Further the perusal of literature failed to reveal any such surgical correction previously reported for the management of the salivary cyst in cattle which preserves the gland and its function even after the surgery. So surgical creation of a fistula connecting salivary cyst and oral cavity was constructed which in turn preserves the gland and its

function even after the surgery.

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