CASE REPORT

Sokoto Journal of Veterinary Sciences
(ISSN 1595-093X)
Abubakar *et al*. /*Sokoto Journal of Veterinary Sciences* (2011). 9(2):28-31.

Oral choristoma in one and a half year-old ouda ewe: a case report

AA Abubakar[1*], A Jibril[2], AS Yakubu[1] & YS Baraya[3]

[1]*Department of Veterinary Surgery and Radiology*
[2]*Department of Theriogenology and Animal Production*
[3]*Department of Veterinary Pathology*
Usmanu Danfodiyo University, Sokoto

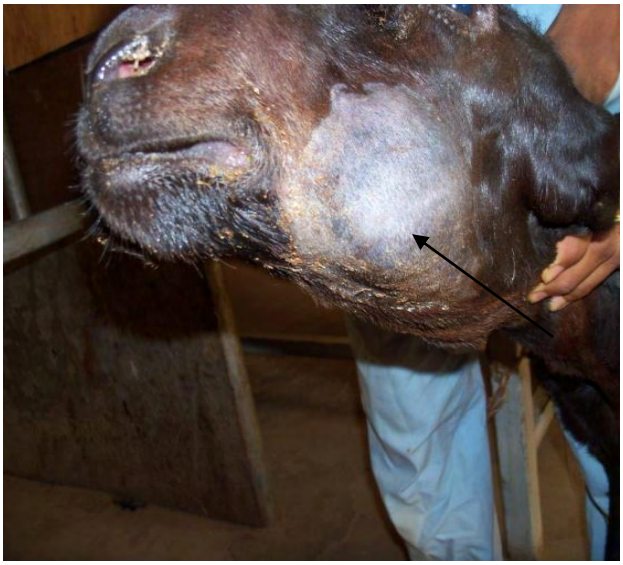
*Correspondence: Tel.: +234 8036659884, E-mail: babaji32002@yahoo.com

Abstract
A one and a half year old ouda ewe was presented with a firm, solid mass on the inner lateral wall of oral cavity attached to the gingiva. Histopathological findings indicate oral choristoma. The condition was managed surgically by excising the mass, flushing the oral cavity with mild chlohexidine gluconate, administration of broad spectrum antibiotic, steroidal anti-inflammatory and multivitamin injection.

Keywords: choristoma, ewe, histopathology, oral cavity, ouda.

Introduction
Choristoma are tumor-like masses of normal cells or tissue that develops in an ectopic location (Neville *et al*., 1995). Several different tissue types may occur in the mouth as choristomas. These include bone, cartilage, gastric mucosa, glial tissue, and tumor-like masses of sebaceous glands (Chou *et al*., 1991). However the most frequently observed choristomas of the oral cavity are those that consist of bone (Shimono *et al*., 1984; Tohill *et al*., 1987). These lesions have also been called soft tissue osteomas, but osseous choristoma is a more accurate term as the lesions are not true neoplasms (Kroll *et al*., 1971). Choristomas occur most frequently in the tongue (Vander Wall, 1987) and less commonly in other sites such as buccal mucosa (Long and Koutnik, 1991; Gaitán-Cepeda *et al*., 2003) and alveolar mucosa (Sheridan, 1984; Tohill *et al*., 1987).
Monserrat was the first to report an osseous lesion in the tongue in 1913 and he labeled it as 'lingual choristoma', the term that normally describes neoplastic pathology (Naik *et al*., 2009). Krolls changed this term later to 'osseous choristoma' in 1971, which means a mass consisting of normal cells in an abnormal location. He used this term as he noticed that these lesions were not osteogenic in origin and not progressively enlarging like benign lesions (Kroll *et al*., 1971) Clinically, these lesions were described as a hard mass, either pedunculated or sessile (Andressakim *et al*., 2008). All lesions were treated by surgical excision with uneventful healing. Recurrence or malignant transformations were not reported.

Case report
A one and a half year old Ouda ewe weighing 24 kg was presented to the large animal clinic of Usmanu Danfodiyo University, Sokoto Veterinary Teaching Hospital with a complaint of swelling around the submandibular region (Plate I). The animal was purchased from sokoto animal market five weeks earlier. The mass was small at the time of purchase but progressively increased in size overtime.
On physical examination, the patient was slightly emaciated; rough hair coat and ingested feed were coming out through the oral commissure. The swelling was firm, warm to touch, fluctuated on palpation and measured 5x9.2cm^2 (Plate II). There were halithosis, ulceration of the oral mucosa, and dark coloration of both tongue and gingiva. The temperature, pulse and respiratory rates were within normal range. Fine needle aspirate yielded no fluid. Blood and fecal samples were taken for routine laboratory investigations.
Tentatively, oral sarcoma was diagnosed. The ewe was evaluated for surgical excision of the mass. The patient was physically restrained on lateral recumbency with the affected side uppermost. The affected area was shaved, and scrubbed with Purit® antiseptic solution containing Chlorhexidine Gluconate B. P 0.3%W/V, Cetrimide B. P 3%W/V (Saro LifeCare Limited, Lagos Nigeria) and disinfected with Methylated spirit (Binji Global Pharmaceutical Company, Sokoto Nigeria). The ewe was sedated with Xylazine (Xylazine HCl 20mg/ml) Kepro Holland at 0.025mgkg^{-1} and local anesthetic was infiltrated using lignocaine hydrochloride, Lignocaine injection B. P. 2% (Sahib Singh Agencies, Mumbai, India) at the site. Skin incision was made directly on the mass and the incision was continuoued until the mass was exposed (Plate III). The mass was found to be independent of skin but attached to the gingiva. The base of the mass was crushed with two heavy artery forceps and ligated with Becton® chromic catgut size 0, atraumatic; ½ circle taper point needle (Anhui Kangning Industrial Groups, China) before transection. The



Plates I: The patient at presentation, with oral mass (arrow)

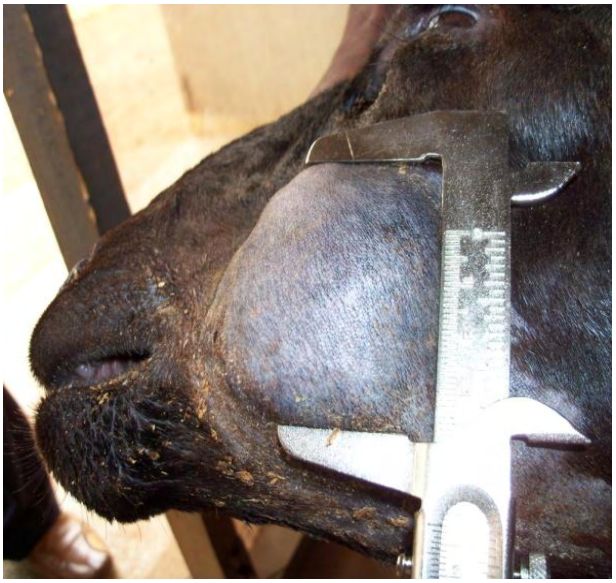


Plate II: Ewe with subcutaneous thick mass

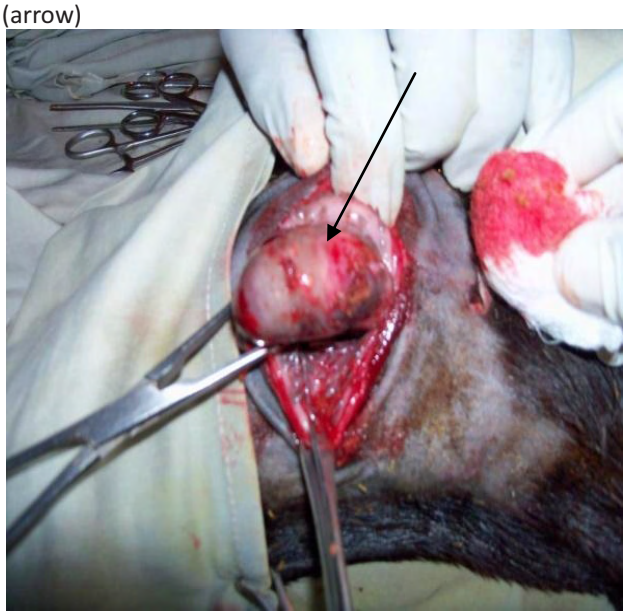


Plate III: Surgical exposure of the mass (arrow)

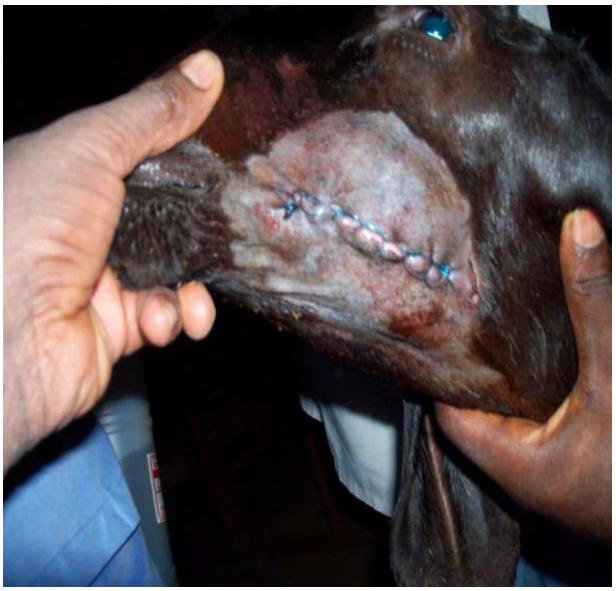


Plate IV: The skin closure with ford-interlocking suture patterns (arrow)

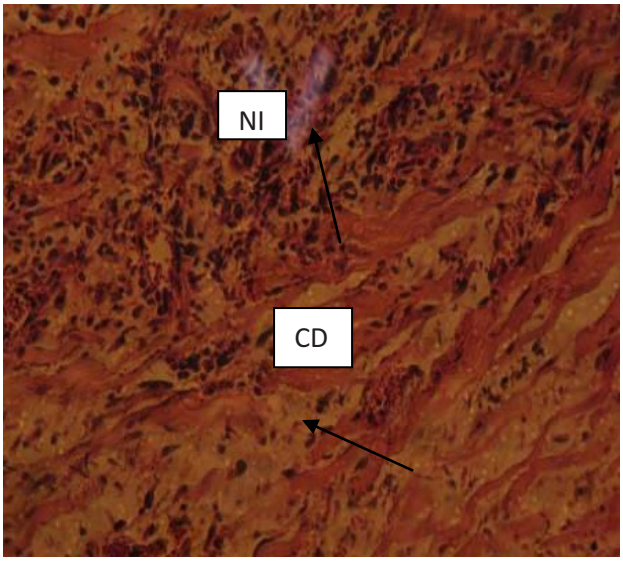


Plate V: Photomicroscopic appearance of the mass with collagen deposit (CD) and neutrophilic infiltrates (NI) suggestive of microscopic features of skin with normal mitotic index x200 stained with H&E

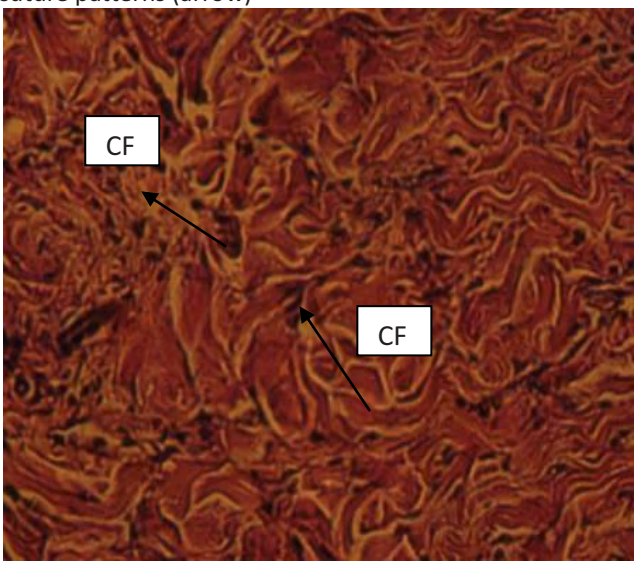


Plate VI: Photomicroscopic appearance of the mass Collagen fibres (CF) suggestive of skin microscopic skin feature with normal mitotic index x200 stained with H&E

transected mass was then preserved in 10% buffered formalin solution for histopathological examination. The skin was closed with Agary® Nylon size 0, atraumatic; $^{3}/_{8}$ curved cutting needle (Agary Pharmaceutical LTD, Xinghuai, China) using ford-interlocking suture pattern (Plate IV).

Post surgically, the following treatment was instituted: Penstrep® injection (Aether Centre, Beijing, Biologic Co., LTD) procaine penicillin 200mg and dihydrostreptomycin 250mg at dose rate of 20,000 IU/kg^{-1} and 10 mgkg^{-1} respectively intramuscularly for five days, 0.2% dexamethason injection (Aether Centre, Beijing, Biological Co., LTD) at 2 mgkg^{-1} intramuscularly for two days, multivitamin injection (Aether Centre, Beijing, Biological Co., LTD) 3ml intramuscularly for five days and daily dressing and flushing of the surgical site for seven days.

Histopathological section of the mass revealed normal cell morphology at abnormal site, the mitotic index were within normal rage microscopic features observed were inflammatory infiltrates, collagen deposit and collagen fiber, suggestive of skin located in an abnormal site (Plate V and VI). Based on the histopathological finding, diagnosis of chroristoma was made. The patient was hospitalized throughout the period of treatment; it was discharged after sutures were removed at day 14 post surgery.

Discussion

Choristoma is histologically an island of normal tissue that occurs in an abnormal location. In contrast, a hamartoma is a mass composed of histological normal cells in an anatomically normal location (Steinbach *et al*., 2004).

The pathogenesis of lingual choristoma is still uncertain but it is not a debatable entity because its existence is well recognized (Vered *et al*., 1998). Several theories have tried to explain the pathogenesis of these lesions. In general, these theories can be divided into two main categories; the developmental malformation theory and the reactive (posttraumatic) theory (Kroll *et al*., 1971; Supiyaphun *et al*, 1998).

The first developmental theory is based on the anatomic location of the lesion in the foramen cecum. Embryologically, the anterior two-thirds of the tongue originate from the first branchial arch and the posterior one-third originates from the third branchial arch. The union takes place in the region of the foramen cecum and the sulcus terminalis. Both of these arches also give rise to normal bony structures such as the middle ear bony ossicles and the hyoid bone. Therefore, it was suggested that pluripotential cells from these branchial arches might give rise to these osseous lesions (Benamer and Elmangoush, 2006). Supiyaphun, *et al*, (1998) reported that, the second developmental theory is associated with remnants of thyroid tissue. The foramen cecum is the site of the development and the descent of the future thyroid gland in the neck and it was suggested that the remnants of the undescended thyroid tissue might produce osseous proliferating lesions later in life.

The reactive (posttraumatic) theory is based on the fact that there is frequent and constant irritation by different lingual activity such as swallowing and articulation. This frequent trauma can lead to local inflammation, similar to what happens in the case of 'myositis ossificans'. However, this theory cannot explain the formation of fully developed bone with the haversian system and not the zonation seen in myositis ossificans (Vered *et al*., 1998).

We reported a case from an ewe with an oral choristoma that closely resembles a hamatoma described in literatures. To the best of our knowledge this is the first report of choristoma in animal in Sokoto. We recommend histologic sectioning of all mass grossly suspected to be neoplastic in nature for proper and accurate diagnosis.

Acknowledgment

We acknowledge the effort of all the Technicians at Veterinary Anatomy Laboratory for processing the histopathology slides; the effort of Dr SM Sahabi of Histopathology Department, Usmanu Danfodiyo University Teaching Hospital is highly appreciated for interpretation and photomicrograph of the slides.

References

Andressakim DD, Pavlahis AG, Chrylsomali E & Rapidis AD (2008). Infected lingual osseous choristoma. report of a case and review of the literature, *Medicina Oral Patologia Oral Y Cirugia Bucal,* **13**(10): 627-632.

Benamer MH, Elmangoush AM (2006). Lingual osseous choristoma: case report and review of literature. *Libyan Journal of Medicine*, **06**:9-11.

Chou LS, Hansen LS & Daniels TE (1991). Choristomas of the oral cavity: a review. *Oral Surgery Oral Medicine Oral Pathology,* **72**(5):584-593.

Gaitán-Cepeda LA, Quezada-Rivera D & Ruíz-Rodríguez R (2003). Osseous choristoma of the oral soft tissue: case report. *Medina Oral,* **8**(3):220-223.

Kroll SO, Jacoway JR & Alexander WN (1971). Osseous choristomas (osteomas) of intraoral soft tissues. *Oral Surgery Oral Medicine Oral Pathology*, **32**(4):588-595.

Long DE & Koutnik AW (1991). Recurrent Intraoral osseous choristoma. report of a case. *Oral Surgery Oral Medicine Oral Pathology,* **72**(3):337-339.

Naik VR, Wan Faiziah W & Musa MY (2009). Choristoma of the base of the tongue. *Indian Journal* of *Pathology and Microbiology*, **52**:86-87.

Neville BW, Damm DD & Allen CM (1995). *Oral and Maxillofacial Pathology (2nd edition)*. WB Saunders Company, Philadelphia-London-Toronto Pp 400.

Sheridan SM (1984). Osseous choristoma: a report of two cases. *British Journal of Oral* and *Maxillofacial Surgery*, **22**(2):99-102.

Shimono M, Tsuji T, Iguchi Y, Yamamura T, Ogasawara M & Honda T (1984). Lingual osseous choristoma. Report of 2 cases. *International Journal of Oral and Maxillofacial Surgery,* **13**(4):355-359.

Steinbach TJ, Reischauer A, Kunkemoller I & Mense MG (2004). An oral choristoma in a foal resembling hairy polyps in humans. *Veterinary Pathology*, **41**:698-700.

Tohill MJ, Green JG & Cohen DM (1987). Intraoral osseous and cartilaginous choristomas: report of three cases and review of the literature. *Oral Surgery Oral Medicine Oral Pathology*, **63**(4):506-510.

Vander Wall N & Vander Wall I (1987). Osteoma or chondroma of the tongue; clinical and postmortem study. *International Journal of Oral and Maxillofacial Surgery*, **16**(6):714-717.

Vered M, Lustig JP& Buchner A (1998). Lingual osteoma: a debatable entity. *Journal of Oral Maxillofacial Surgery*, **56**: **9**-13.

Supiyaphun P, Sampatanakul P, Kerekhanjanarong V, Chawakitchareon P & Sastarasadhit V (1998). Lingual osseous choristoma: A study of right cases and review of the literature. *Ear Nose Throat Journal*, **77**:316-318.