
Herniation of antral membrane through oro-antral fistula with polyp formation-a case report

Mariyam Nishana*, Imran Mohtesham, Vishnudas Prabhu, Riaz Abdulla

Department of Oral Pathology and Microbiology, Yenepoya Dental College, Yenepoya University, Mangalore, Karnataka, India

ABSTRACT

Oroantral communication fistula is a common complication of dental extraction of posterior maxillary teeth. The occurrence of herniation of the antral membrane with large polyps extending through fistula into the oral cavity is rare. Here we report a case of herniation of an antral polyp through an oroantral fistula, appearing as a polypoid lesion in a female patient aged 24-year-old, who underwent an extraction of her upper molar two months ago. The soft tissue mass was asymptomatic, red in colour and nontender to palpation, involving the alveolar ridge in the maxillary molar area. Patient underwent surgical removal of the soft tissue mass followed by closure of the oroantral fistula.

Key words: antral polyp, herniation, oro-antral fistula.

Introduction

Oroantral communication is an abnormal connection between the oral and antral cavities. When oroantral communication is left open epithelial tissue may develop in its track resulting in formation of oroantral fistula[1]. The term oroantral fistula (OAF) indicates a canal lined by epithelium that may be filled by granulation tissue or by polyposis of the sinus membrane.[2] Various etiological factors for OAF has been implicated in the literature such as dental infection, osteomyelitis, radiation therapy, trauma or due to iatrogenic oroantral communication following removal of maxillary cysts or tumors.[3] Oroantral fistula is a common complication following dental extraction of posterior maxillary teeth.[4] This is due to the close relationship between the apex of these teeth and the thinness of the maxillary sinus floor[5]. Herniation of the antral membrane with large polyps

extending through fistula into the oral cavity is a rare phenomenon. We report a rare case of such herniation of oroantral membrane through oroantral fistula with polyp formation.

Case report

A 24 year old female patient came to the department of oral surgery for evaluation of a soft tissue mass on alveolar ridge in the area of previously extracted upper left molar area. The soft tissue mass was noticed one month post extraction of upper left molar teeth. The patient had pain in that region initially, which subsided on its own. The swelling was associated with foul smelling purulent discharge. The mass varied in size, it enlarged and diminished spontaneously several times. On clinical examination a pedunculated ovoid soft tissue growth measuring about 2cm in diameter, originating from the extraction socket was seen. It was non tender on probing (Figure.1).Excision of the nodular growth was done under local anaesthesia (Figure 2). Following the excision of the mass, oroantral communication was evident. Curettage and irrigation with betadine was done. Stent was placed and post operative instructions were given to the patient.

*Correspondence

Dr. Mariyam Nishana

Department of Oral Pathology and Microbiology,
Yenepoya Dental College, Yenepoya University,
Mangalore, Karnataka, India

E Mail: nishnisha_87@yahoo.co.in



Fig 1: Intraoral examination showing an exophytic growth in the area of missing maxillary first molar.



Fig 2: Intraoral photograph showing final closure of the antral opening following excision of the exophytic growth.



Fig 3: Gross appearance of received excised specimen

The excised tissue macroscopically consisted of two bits of soft tissue, greyish white in colour, large bit measuring approximately 0.5X0.3 cm and firm in consistency

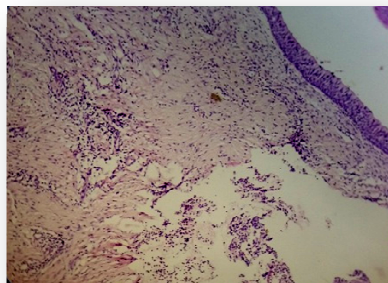


Fig 4: Pseudostratified ciliated columnar epithelium and edematous connective tissue with chronic inflammatory cell infiltrates predominantly lymphocytes and plasma cells.

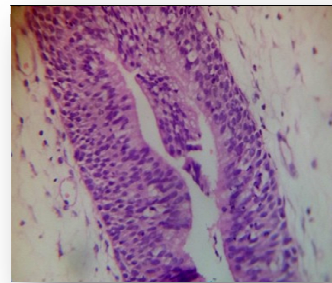


Fig 5. Pseudostratified ciliated columnar epithelium derived from maxillary sinus lining.

Histological examination of the excised specimen stained with H&E revealed a polypoid mass lined by pseudo stratified ciliated columnar epithelium, derived from maxillary sinus lining with areas of ulceration and squamous metaplasia. The connective tissue stroma is oedematous with abundant chronic inflammatory cells predominantly lymphocytes and plasma cells with focal areas of myxoid degeneration (Figure 4&5).

Based on clinical and histopathological findings a final diagnosis of herniation of antral membrane through an oroantral fistula with polyp formation was done.

Discussion

The oroantral fistula (OAF) is a pathological communication between the oral cavity and the maxillary sinus. Oroantral fistula is a common complication following dental extraction of posterior maxillary teeth. This is attributed to the close relationship between the apex of these teeth and the thinness of the floor of the maxillary sinus[5]. The term oroantral fistula indicates a canal lined by epithelium that may be filled by granulation tissue or by polyposis of the sinus membrane, and the herniation of the antral membrane with large polyps extending through fistula into the oral cavity is a rare phenomenon[3]. Oroantral fistula develops at post extraction site either from iatrogenic complications or from dental infections, osteomyelitis, radiation therapy or trauma. Usually, small oroantral communications heals by formation of blood clot. Interference in the formation of a sound blood clot by the use of packs or a haemostatic agents leads to a disturbance of physiological repair of the socket and may result in formation of an oroantral fistula[2]. The closure of OAF is one of the more challenging problems in oral surgery. Long-term successful closure of OAF depends on the technique used, the size and location of the defect, and on the presence or absence of sinus disease [5]. Guven et al. conducted a clinical study on analysis of 98 patients with an oroantral fistula (OAF). He reported that the tooth most frequently involved was the upper second molar, followed by the first molar and the highest incidence was seen in the fourth and third decades of life as in the present case and the lowest incidence in the second decade [5]. In the present case the communication between the extraction socket and the maxillary sinus occurred following the tooth extraction. Since it was not noticed and treated on time, it resulted in antral mucosal inflammation causing antral polyp

to herniate and protruded through oroantral fistula into the oral cavity. It is rare to see herniation of oroantral polyp through oroantral fistula and hence it should be included in differential diagnosis of exophytic growth on maxillary alveolar ridge following a recent extraction[2]. Surgical excision of the growth followed by closure of the oroantral opening is the treatment of choice.

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