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MEDICAL RESEARCH REPORTS

CASE REPORT

Large Peripheral Odontogenic Fibroma: Clinical and Histological Aspects: A Case Report

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ÖZET

Periferik odontojenik fibroma, bağ dokusundan gelişen bir tümördür. Periferik odontojenik fibroma, nadir görülen bir tümördür, bu nedenle literatürde çok bahsedilmemiştir. Periferik odontojenik fibroma, iyi huylu, yavaş büyüyen, asemptomatik ve sıklıkla mandibula anterior bölgede görülür. Santral odontojenik fibromun, ekstraossöz formu olarak bilinmektedir. Periferik odontojenik fibrom genel olarak bağ dokusu ve epitel kalıntıları içerir. Periferik odontojenik fibromun, pyojenik granülomdan, periferal ameloblastomadan, periferik ossifiye fibromdan ve dev hücreli granülomdan ayırıcı tanısı yapılmalıdır. Tedavisi cerrahidir. Cerrahi tedaviden sonra nüks rapor edilmiştir. Bu nedenle hastalar düzenli takip edilmelidir.

Anahtar kelimeler: Fibrom, Mandibula, Odontojenik, Periferik

ABSTRACT

Peripheral odontogenic fibroma (PFdF) is an odontogenic neoplasm of connective tissue. Due to the rarity of POdF, the lesion is not commonly reported in the literature. POdF is a benign, slow-growing, asymptomatic, non-ulcerated gingival mass seen mainly in the anterior mandible. It is designated as the extraosseous counterpart of the central odontogenic fibroma (COF). POdF mainly consists of connective tissue with various amounts of epithelial nests. This entity should be added to armamentarium of the differential diagnosis of soft tissue tumors like peripheral ossifying fibroma, peripheral ameloblastoma, pyogenic granuloma, and giant cell granuloma. Surgical excision is the treatment of choice. Recurrence was reported in the literature. Thus, the patient should be followed up regularly after the surgery.

Keywords: Fibroma, Mandible, Odontogenic, Peripheral

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INTRODUCTION

Peripheral odontogenic fibroma (POdF) is an uncommon, benign, slow-growing, mesenchymal odontogenic tumor that consists of odontogenic epithelium and fibrous tissue (1,2). It is a soft tissue (gingival) counterpart of the central odontogenic fibroma (COF) (3). Different amounts calcification can develop within the fibrous tissue in the features of dentinoid or osteoid-like material. POdF occurs more often than its' central counterpart (COF). This neoplasm develops in a wide age range, but the peak incidence is reported between the second and fourth decades (4). POdF is clinically seen as a firm, sessile, red, painless, expansile gingival mass covered with non-ulcerated, healthy and intact mucosa. A well-defined capsule surrounding the lesion is very rare (5). Differential diagnoses of POdF should be made with pyogenic granuloma, peripheral giant cell granuloma, fibrous hyperplasia, and peripheral ossifying fibroma. POdF is not exactly well-defined in radiographs without calcification in the lesion. POdF can develop both in the upper and lower jaw but is mostly seen at the lower anterior tooth-bearing gingiva. Location of the POdF support its' odontogenic origin. Local recurrence was reported in the literature. Thus, wide local excision of the lesion with involved teeth is the treatment of choice. Patients should be followed up regularly due to reported recurrent episodes (6).

CASE DOCUMENTATION

A 62-year- old male patient was referred to department of oral and maxillofacial surgery with a four-year history of swelling in the lower anterior tooth-bearing region, which causes interferences during speaking and eating (Figure 1). A firm, non-ulcerated, well-defined, painless lesion was detected on palpation (between tooth 31-43). The patient was a heavy smoker (one pocket/per day). He had history of hypertension and were using anti-hypertensive drugs (Amlodipine 10 mg, Perindopril 5 mg)). Lesion was not delineated exactly in radiographic examination. Slight radiopaque bone mass was observed at orthopantomograph and had displaced nearby teeth (Figure 2).

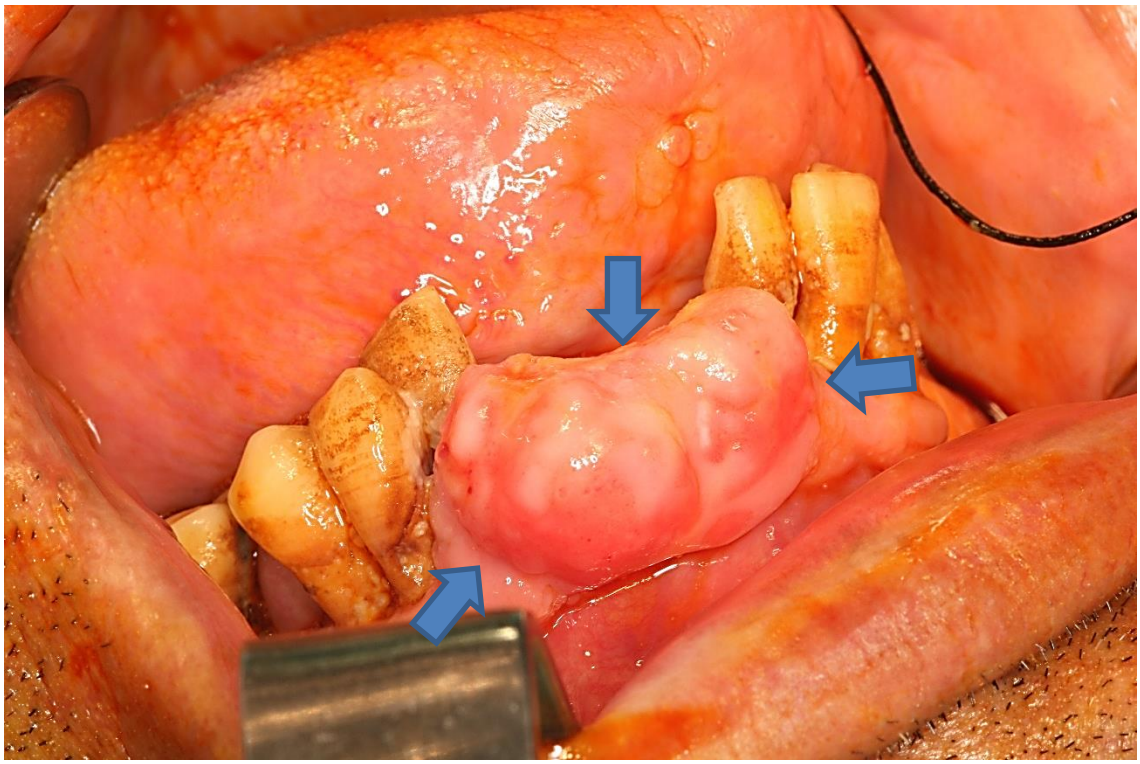

Figure 1. Blue arrow depicted lesion.

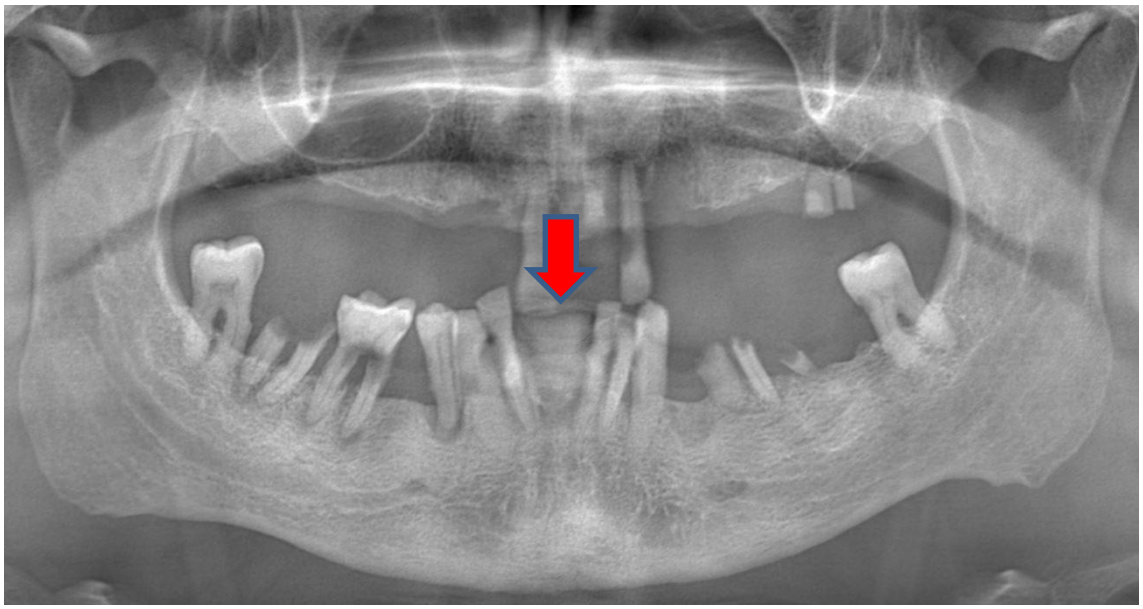

Figure 2. Red arrow shown lesion displaced adjacent teeth.

Surgical resection with associated teeth was the treatment of choice. Under the general anesthesia, mucovestibular incision was done to expose the lesion after the local anesthesia was administered. Dissection along the mental muscle was performed, and lesion was

delineated. En-bloc surgical resection with associated teeth was performed by using piezotome (Figure 3, Figure 4).

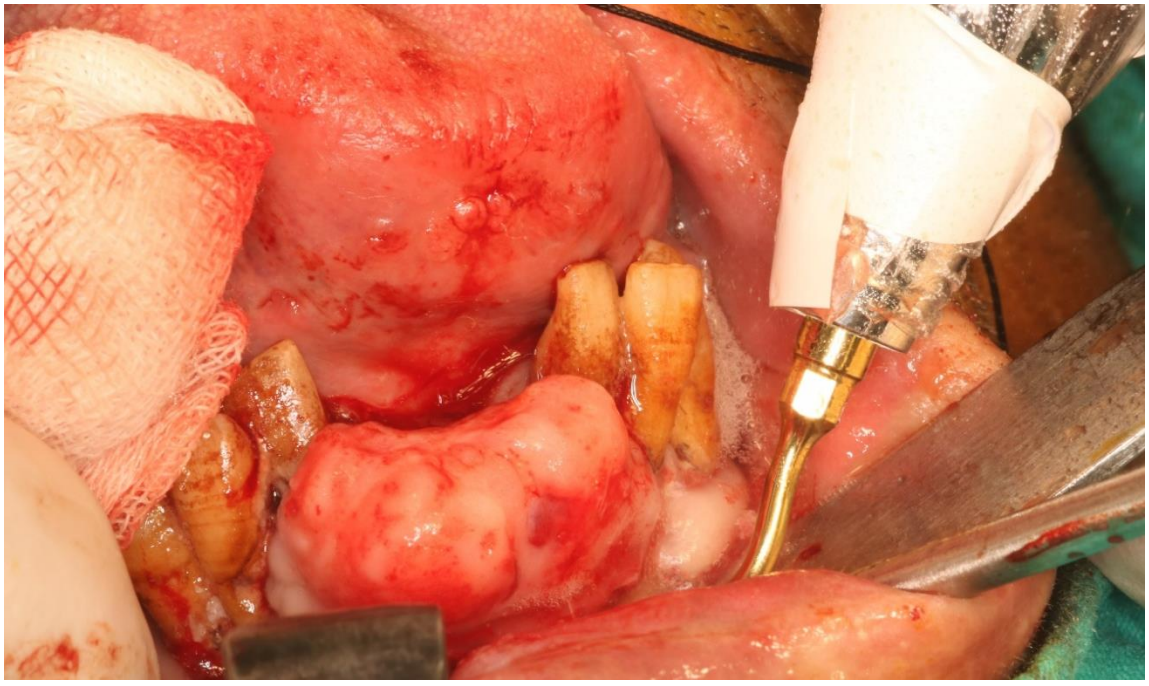

Figure 3. Performing osteotomy with piezotome.

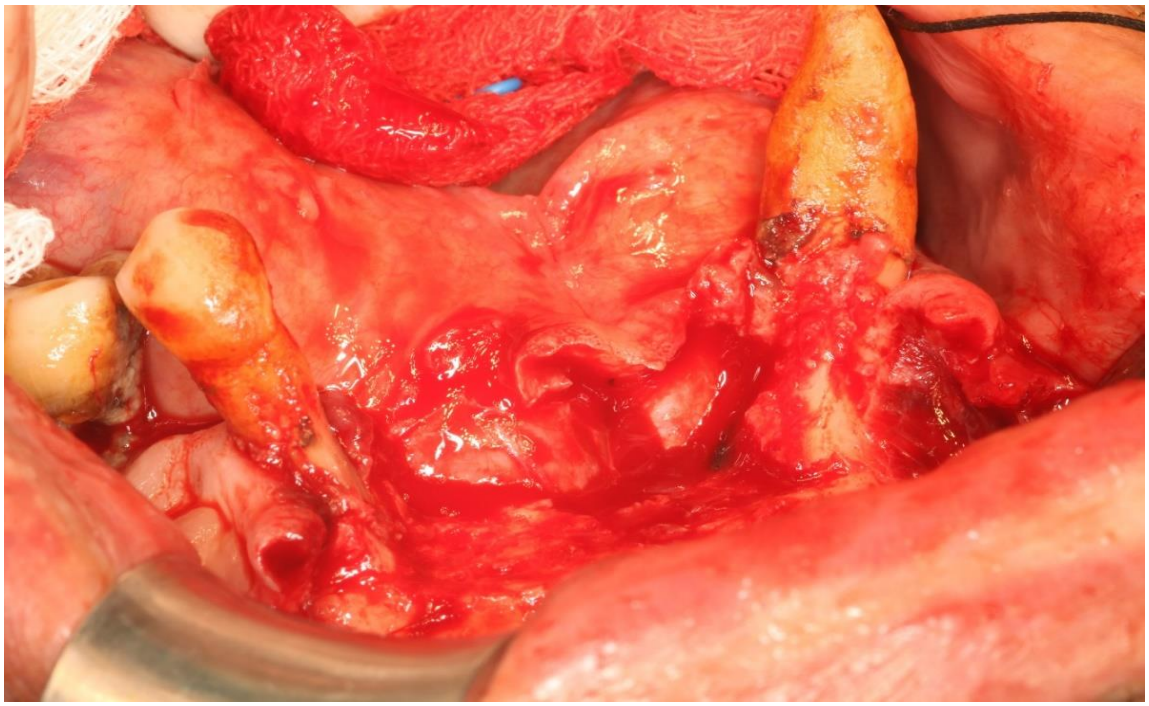

Figure 4. Surgical region after en-bloc resection.

Adjacent teeth was also extracted due to poor prognosis. Curettage of the region was thoroughly done after the piezo surgery. Rough bone surface was smoothed with bone file and diamond round bur. Resected en-bloc specimen was sent to oral pathology department (Figure 5) Primary closure was achieved with 3.0 vicryl suture layer by layer (Figure 6)

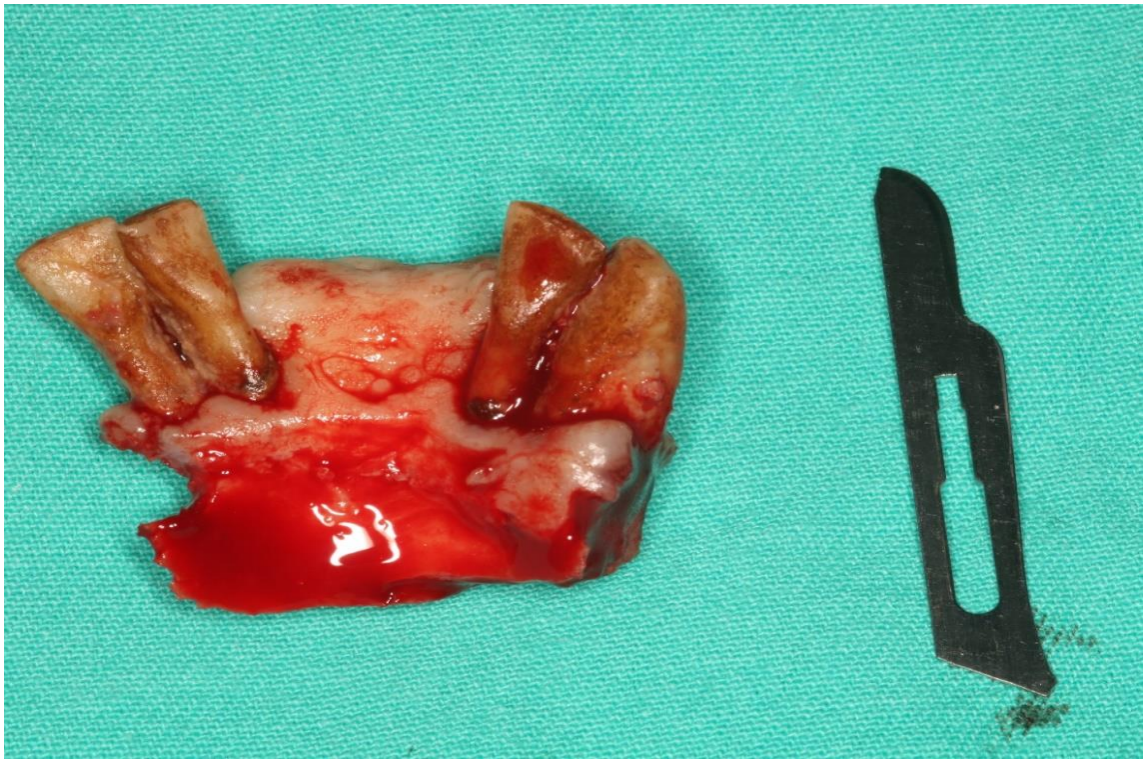

Figure 5. Resected Specimen.

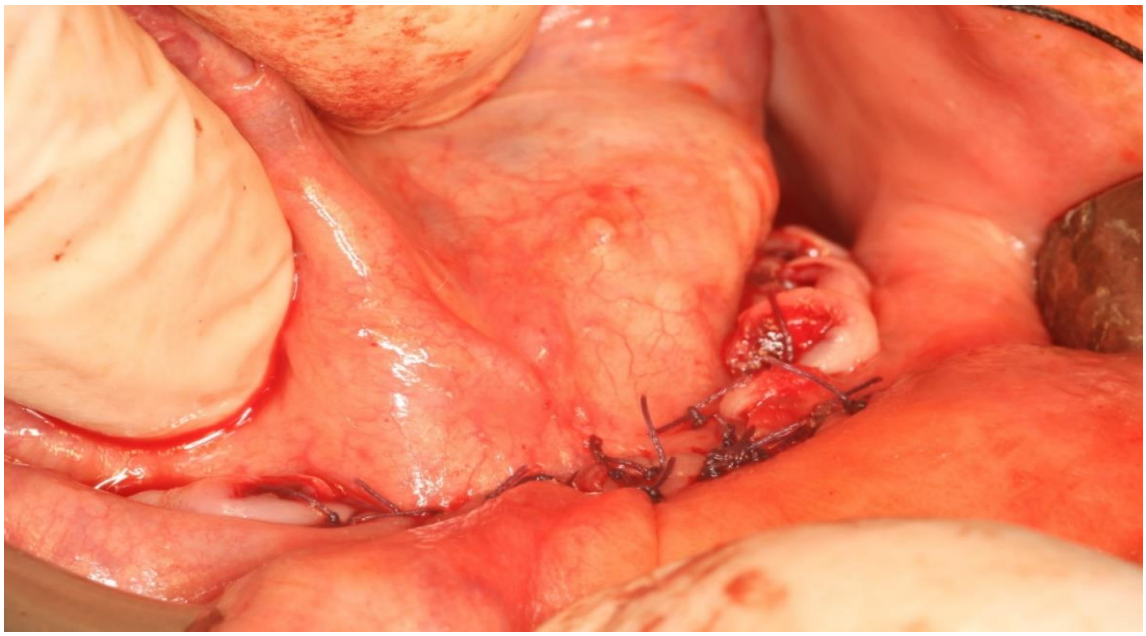

Figure 6. Primary closure of the surgical region.

Histopathological examination revealed a non-ulcerated gingival mass layered with stratified squamous epithelium composed of cellular, fibromyxoid stroma. This stromal component showed small inactive-appearing odontogenic epithelial rests and reactive osteoid trabecules (Figure 7). The lesion was diagnosed as POdF. The surgical region recovered uneventfully.Three months follow-up period did not reveal any sign of recurrence (Figure 8).

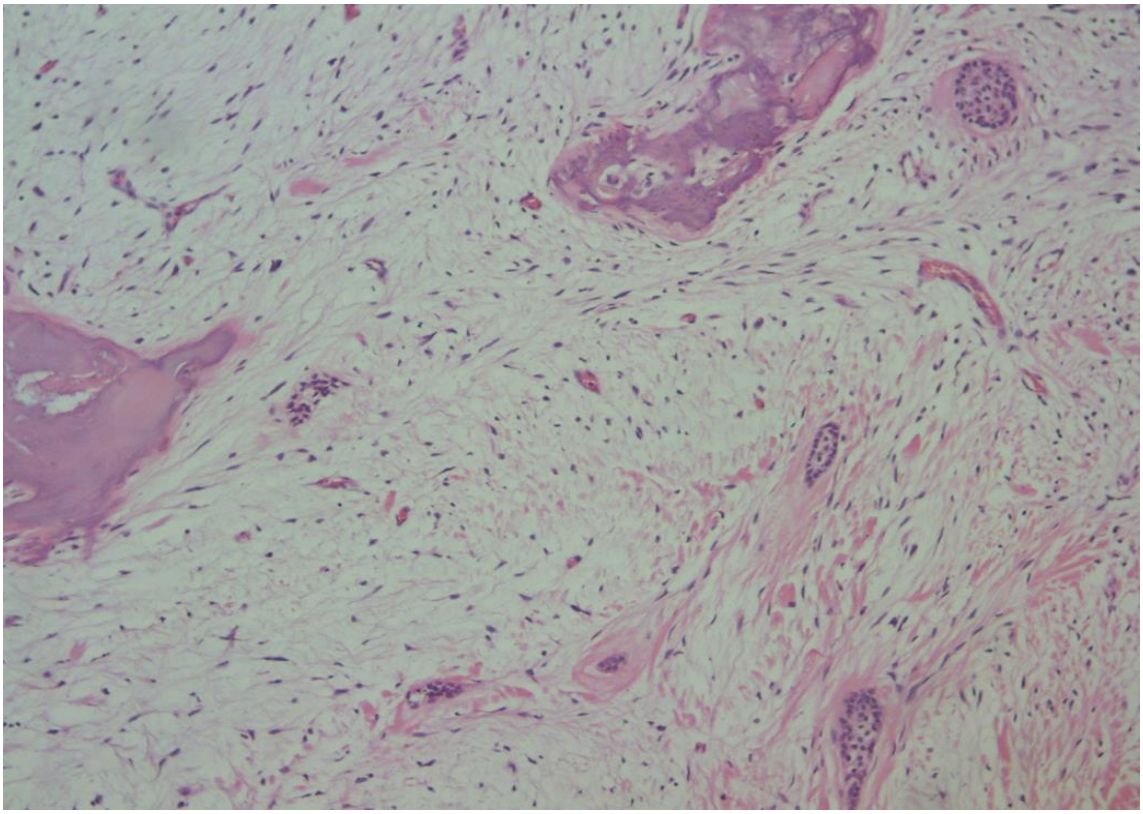

Figure 7. Myxoid appearence with odontogenic epithelial rests (red arrow) and reactive osteoids (blue arrow). (Hematoxylin&eosin, x200 magnification)

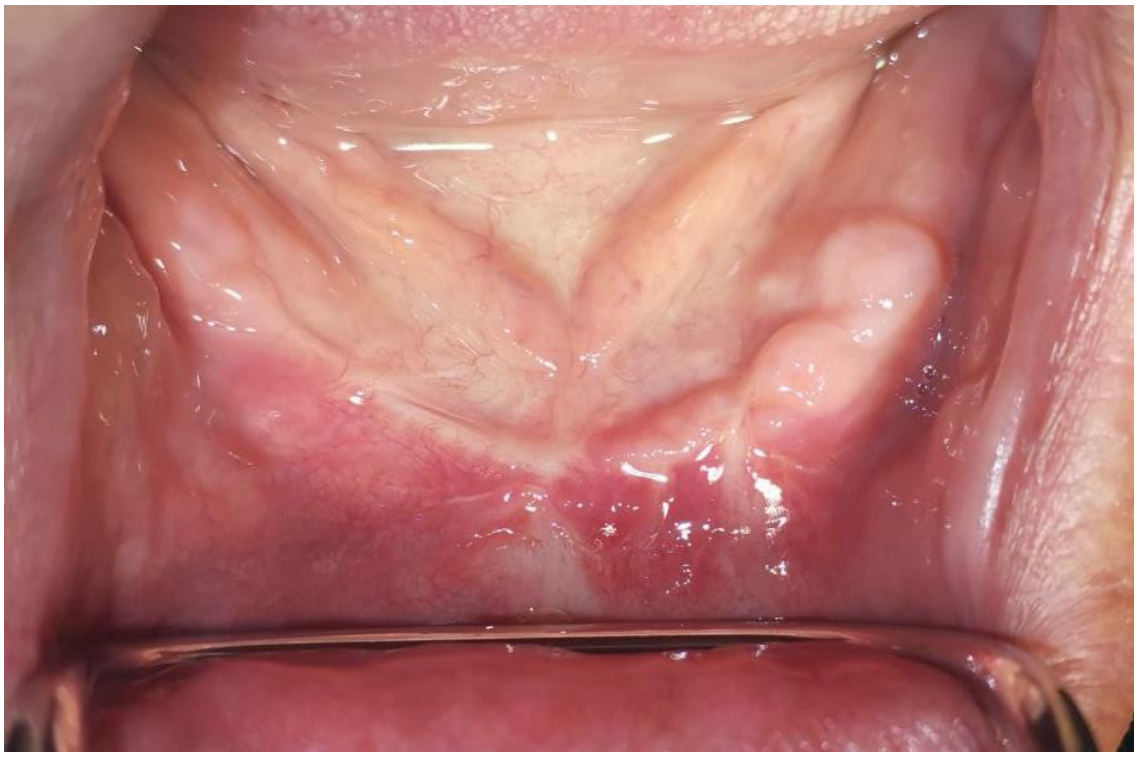

Figure 8. Three months appearance following surgery.

DISCUSSION

World Health Organization (WHO) defined POdF as odontogenic neoplasm derived from mature fibrous connective tissue. POdF is known as the mucosal counterpart of central odontogenic fibroma. Inactive epithelial cells are more likely to occur in such tissue with or without varying degrees of calcification. It is more common than its extraosseous counterpart. POdF mainly occurs in females rather than males and has an age peak between the second and fourth decades of life. POdF is primarily seen in the anterior lower jaw gingival region and on the buccal surface with or without displacing adjacent teeth. It is generally a slow-growing, painless, sessile gingival lesion developing over the years, as in our case (6,7).

Differential diagnoses of POdF should be made with pyogenic granuloma, peripheral ossifying fibroma, peripheral giant cell granuloma, and peripheral ameloblastoma (8, 9). Our provisional diagnosis was peripheral ossifying fibroma (POF). Histologically POdF is mostly confused with POF. The basic microscopic pattern of the POF is of a cellular fibrous proliferation associated with the formation of a mineralized product. Odontogenic epithelial remnants are mostly seen in POdF wheras rarely seen POF. Surface ulceration is not generally reported in POdF. Mucosal perforation was not reported in our case. Mineralized structures (dentinoid and cementum-like calcifications) are common in both entities. Well-defined bone was mostly seen in POF but rarely in POdF. Giant cells are mostly encountered in POF compared to POdF. Vasculature of POF is less than POdF owning

to its' relatively fibrous stroma. On the other hand, above mentioned features can be common in both entities with different sizes and amounts (10).

WHO classifies peripheral odontogenic fibroma as a tumor of odontogenic origin consists of odontogenic ectomesenchyme. In our case the prominent histopathologic findings were the presence of odontogenic epithelial rests and connective tissue stroma, which change from fibrous to myxoid (6).

Sreeja et al. found that basal cell budding is associated with higher recurrence, whereas calcification nearby the epithelial nest is associated with a lower recurrence rate (11). Due to rare documentation and recurrence cases of POdF in literature, further clarification of a large amount of cases should be evaluated to achieve realistic results.

CONCLUSION

POdF is managed with the excision of the whole lesion. Recurrence was reported in the literature. Patients should be followed up regularly after the surgery due to rare documentation of cases and lack of enough data regarding the prognosis of POdF.

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