CASE REPORT

A rare benign odontogenic neoplasm: peripheral odontogenic fibroma

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SUMMARY

The peripheral odontogenic fibroma is a relatively rare, benign, unencapsulated and gingival mass of fibrous connective tissue, considered to be the extraosseous counterpart of the central odontogenic fibroma. Peripheral odontogenic fibroma was earlier quite commonly confused with peripheral ossifying fibroma, until WHO classification (1992), classified it under odontogenic tumours. Peripheral odontogenic fibroma is seen so infrequently that little is known about this neoplasm; the largest series of cases have been that of Farman who found five cases in the literature and added another 10 cases. Through this case report we try to clarify the features of this condition and attempt to clear its distinction with other commonly occurring conditions.

BACKGROUND

The peripheral odontogenic fibroma (WHO type) is a relatively rare, benign, unencapsulated and gingival mass of fibrous connective tissue. It is considered to be the extraosseous counterpart of the central odontogenic fibroma.¹ Peripheral odontogenic fibroma was earlier quite commonly confused with peripheral ossifying fibroma, until WHO classification (1992), classified it under odontogenic tumours. In the past the entity had been designated as 'odontogenic gingival epithelial hamartoma'² and 'peripheral ameloblastic fibrodentinoma'.³ Peripheral odontogenic fibroma is seen so infrequently that little is known about this neoplasm, the largest series of cases have been that of Farman who found five cases in the literature and added another 10 cases.⁴ Through this case report we try to clarify the features of this condition and attempt at its clear distinction with other commonly occurring conditions.

CASE PRESENTATION

A 45-year-old woman reported to the department of oral and maxillofacial surgery with a one-year history of swelling in the upper left back teeth region, which was causing visible asymmetry of the face (figure 1). Intraoral examination revealed a sessile, firm and exophytic gingival growth in relation to the upper left premolars and molars (figure 2). The growth was roughly 4 cm×4 cm in size, and had displaced the second premolar and first molar teeth palatally.

INVESTIGATIONS

Radiological examination did not show any changes apart from a slight amount of bone loss in relation to the first molar tooth (figure 3).

Figure 1 Preoperative extraoral photograph.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis of peripheral giant cell granuloma, peripheral ossifying fibroma, peripheral ameloblastoma and pyogenic granuloma was established.

TREATMENT

Excisional biopsy of the lesion was performed under local anaesthesia (2% lignocaine with 1:80 000 epinephrine) along with the extraction of adjacent teeth. Extensive curettage of the area was performed and primary closure achieved by 3–0 silk sutures (figure 4).

OUTCOME AND FOLLOW-UP

Histopathological examination revealed a markedly cellular fibrous connective tissue stroma composed of dental epithelial and, with non-neoplastic islands and strands of columnar odontogenic epithelium (figure 5) confirming the diagnosis of peripheral odontogenic fibroma. It is extremely important to

Figure 2 Intraoral sessile, firm, exophytic gingival growth in relation to the upper left premolars and molars.

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Figure 3 Excision done and primary closure achieved with 3-0 silk sutures.

have proper follow-up for such rare entities to establish their recurrence potential. Six months follow-up period did not reveal any sign of recurrence and prosthetic rehabilitation of the patient was performed for the extracted teeth.

DISCUSSION

The odontogenic fibroma is defined by WHO as a benign odontogenic neoplasm of fibroblastic origin characterised by relatively mature collagenous fibrous tissue and varying amounts of odontogenic epithelium with the potential to occur in either a central or extraosseous location. The extraosseous counterpart is designated peripheral odontogenic fibroma.¹ Peripheral odontogenic fibroma clinically resembles a variety of focal proliferative lesions occurring on the gingiva, in the inflammatory as well as neoplastic, including conditions such as peripheral giant cell granuloma, peripheral ossifying fibroma, peripheral fibroma, fibrous hyperplasia, peripheral ameloblastoma and pyogenic granuloma.^{5,6} The terms peripheral ossifying fibroma and peripheral odontogenic fibroma were used quite interchangeably for one of these conditions until WHO designated the term peripheral odontogenic fibroma for the condition quite distinct from peripheral ossifying fibroma. Peripheral odontogenic fibroma is widely accepted as an odontogenic tumour of mesenchymal origin⁷ with an inactive epithelial component⁸ although occasionally the epithelium is the dominant feature.⁹ Some studies considered the lesion as a mixed tumour, as both epithelium and mesenchymal components are required for histological diagnosis.¹⁰ There was a slight female predilection reported in a literature review,¹⁰ but with no general consensus on sex predilection, while the ages of patients ranged from 5 to 65 years. There did seem to be a predilection for occurrence in the mandible, which was involved in 11 of 15 cases.⁴ It is commonly seen in the anterior mandible region on buccal gingival surface, rarely causing displacement of teeth.¹¹ Some studies reported no involvement of underlying bone and some areas of calcification¹² which was not seen in the present case. These lesions appear to be slow growing and persistent, often present for a

Figure 4 Radiograph showing bone loss at the site of lesion.

Figure 5 Fibrous connective tissue stoma composed of dental epithelial and non-neoplastic islands and strands of columnar odontogenic epithelium.

number of years asymptotically.¹³ However, in our case the lesion showed unusually aggressive behaviour and achieved the present size within 1 year and also displaced the adjacent teeth palatally, which is a rare finding making quite clear the need for further reports and studies regarding peripheral odontogenic fibroma. A case of recurrence of peripheral odontogenic fibroma after a gap of 11 years was reported, which emphasises the importance of follow-up for such cases. However rare and uncommon this pathological entity may be, it should to be considered in the differential diagnosis of soft tissue tumours. It is extremely necessary to further follow and report this type of lesions, as the present case clearly shows variation in the currently known features and facts about peripheral odontogenic fibroma; and to properly establish its histopathology, treatment options and its rate of recurrence.

Learning points

- ▶ Peripheral odontogenic fibroma is a benign odontogenic neoplasm of fibroblastic origin which is an extraosseous variant of central odontogenic fibroma.
- ▶ The lesion can mimic a large number of focal reactive, proliferative lesions of oral cavity and thus requires an excisional biopsy for final diagnosis.
- ▶ The lesion shows significant growth potential warranting close postoperative follow-up.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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