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Case report

Oral pyogenic granuloma presenting as an atypically large soft tissue mass: A case report

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ABSTRACT

Pyogenic granuloma is a relatively benign localized lesion of the skin and mucosa closely related to trauma, chronic irritation and hormonal changes. Clinically, the lesion appears as a smooth, lobulated, exophytic mass, exhibiting pink to reddish-purple in color and usually easy bleeding. Pyogenic granuloma has no malignant potential but recurrence may occur after surgical excision. The size of lesion varies from millimeters to centimeters, rarely exceeding 2–2.5 cm whilst the larger sizes are seldom reported. Therefore, we report an unusual size of oral pyogenic granuloma in an elderly female patient.

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1. Introduction

Pyogenic granuloma (PG) occurring in human was firstly described and called as “Botryomycosis hominis” by Poncet and Dor in 1897. A variety of names such as granuloma pediculatedum benignum, benign vascular tumor, pregnancy tumor, vascular epulis and Crocker and Hartzell’s disease have been used in relation to PG [1]. Hartzell coined the term “pyogenic granuloma” or “granuloma pyogenicum” in 1904; however, this term is considered misnomer due to the fact that PG does not produce pus and does not represent a true granuloma [1–3]. At present, there are two different histological types of PG namely lobular capillary hemangioma (LCH) type and non-LCH type which represent histological features of the lesion and are currently preferred terms [3,4].

PG is a benign, reactive, vascular lesion occurring on skin and mucosal surfaces of the proximal aero-digestive tracts. Other lesions occurring in the small bowel, colon, rectum and on burn scars have also been reported [2,5]. Clinically, PG reveals as a smooth or lobulated exophytic mass, either pedunculated or sessile. It is usually purple-red in color and tends to bleed easily after minor trauma while older lesions appear to become more

collagenized and pink [3,6]. PG has no malignant potential and recurrence after excision is not unusual [2,5,6]. Most reports suggest that PGs grow to a maximum size of 2 cm while lesions of larger size called “Giant pyogenic granuloma” were reported extraorally with the size larger than 4 cm [2,5,7]. In addition, there were few reports of intraoral PG with the size larger than 2 cm [8–11]. Therefore, we report this unusually large size of oral PG on the right lower gum in an elderly female patient.

2. Case report

A 59-year-old Thai female presented to our Oral & Maxillofacial Surgery Clinic with a soft tissue mass on the posterior right lower gum. The mass enlargement was noticed for the past one year, as a small, sessile, painless mass with easy bleeding. Later, the size of lesion was progressively increased, hindering proper oral functions including mastication and speaking. Medical history taking revealed that she had anemia and hypertension 5 years ago but at the time of presentation, she did not take any medicine. Past dental history showed that she had never seen the dentist. Examination of the head and neck revealed diffuse swelling on the right cheek, normal skin coverage, no tenderness and paresthesia. Cervical and submandibular lymph node enlargement was not noticed. Intra-oral examination revealed heavy plaque and calculus deposition on generalized sharp and carious teeth. At the right lower posterior gingiva, there were two pedunculated masses, rubbery in consistency, pink to reddish in color and bleeding tendency with the size of 5 cm × 4 cm and 1.5 cm × 1.5 cm arising from distal aspect of the right lower second premolar to the retromolar region (Fig. 1A). The

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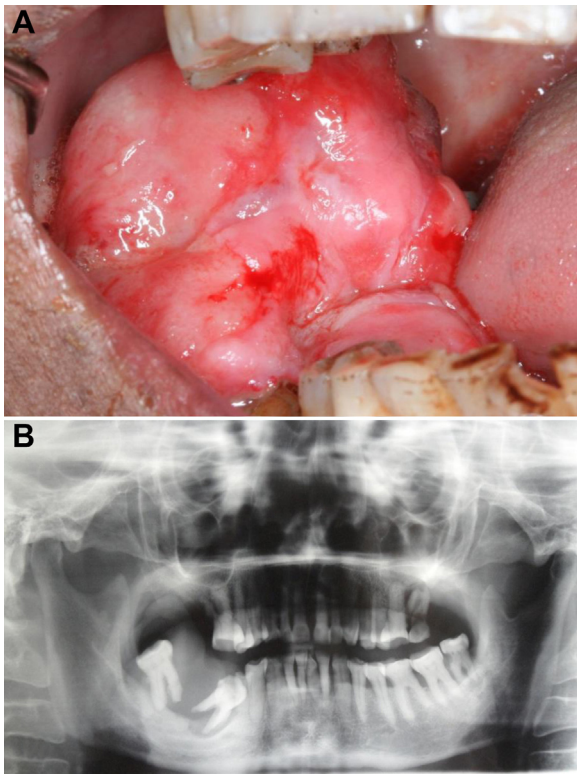


Fig. 1. Clinical and radiographic features of the soft tissue masses. (A) Two pedunculated soft tissue masses were observed on the right lower gum. (B) The panoramic radiograph demonstrates homogeneous, slightly radiopaque soft tissue mass occupying the right posterior mandible, involving the right lower first and second molars which show no bony support.

masses expanded to the lingual side and buccal vestibule, related to extraoral swelling in vertical dimension. In addition, the masses extended over the occlusal surface of the right lower posterior teeth with second premolar, first and second molars engulfed by the lesions. Moreover, areas showing ulceration and indentation of the opposite teeth were remarkably noticed on the occlusal aspect of the soft tissue overgrowth.

The panoramic radiograph showed a generalized bone loss due to periodontal disease. On the right side of mandible, the homogeneous, radiopaque, soft tissue masses, corresponding to the intraoral lesions, were presented. The lesion showed well-defined margin, extending from distal aspect of the right lower second premolar to the anterior ascending ramus. The cupping bone loss or bone saucerization was found beneath the radiopaque lesion with first and second molars residing intralesionally (Fig. 1B).

Irritation fibroma, peripheral giant cell granuloma, peripheral ossifying fibroma and the peripheral type of odontogenic tumors including peripheral odontogenic fibroma and peripheral ameloblastoma were considered in the differential diagnosis. However, the malignant tumors such as osteosarcoma and fibrosarcoma were still in the differential diagnosis because of the unusual clinical features. The histopathological features of specimen obtained from the incisional biopsy demonstrated an ulcerated soft tissue of which connective tissue consisted of a proliferation of abundant young blood vessels engorged with erythrocytes. In addition, an intensely inflammatory infiltrate of both acute and chronic inflammatory cells was evident. No histopathological features of malignancy were observed in all sections examined. These histological appearances were thus suggestive of a pyogenic granuloma.

Surgical excision was carried out under local anesthesia and lesions were cut deep to the periosteum with primary gingival flap closure. Finally, two pedunculated masses were excised separately in two pieces as shown in Fig. 2. The right lower first, second molars



Fig. 2. Surgical specimens after complete excision.

and second premolar were surgically removed concomitantly due to no bony support.

The final histopathological report confirmed the diagnosis of pyogenic granuloma. The lesion again exhibited a soft tissue mass showing ulcerated surface (Fig. 3A). The underlying connective tissue demonstrated numerous small to medium-sized, endothelium-lined blood vessels. Acute and chronic inflammatory cells were found infiltrating within the superficial part of the soft tissue mass where a proliferation of blood vessels was present. Polymorphonuclear leukocytes were evident near the ulcerated surface (Fig. 3A and B). The deeper part of a soft tissue mass showed hypocellularity, less vascularity, less inflammation and remarkable fibrous connective tissue formation (Fig. 3C).

After surgical excision was performed, this patient was referred for full mouth scaling, filling, grinding all of sharp teeth and oral

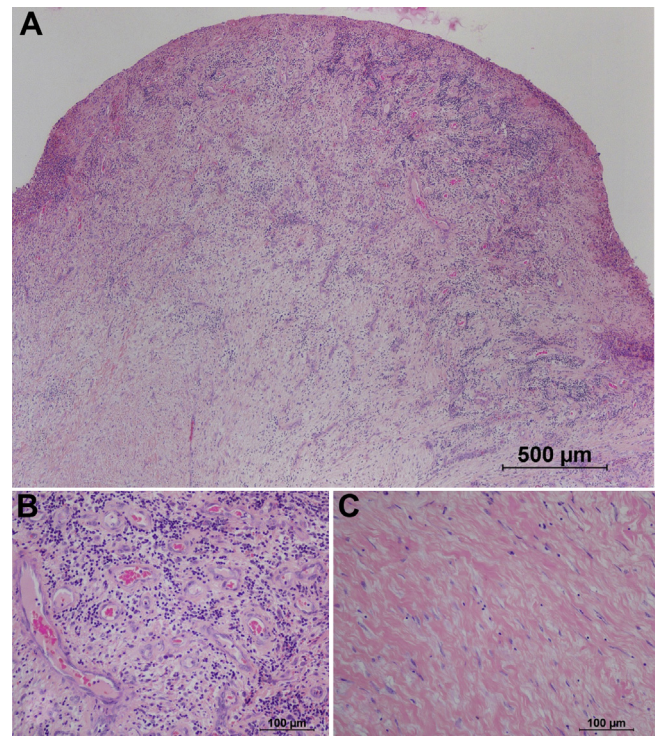


Fig. 3. Histopathological features of the specimens. (A) At low magnification (40 \times , hematoxylin and eosin staining), the soft tissue mass demonstrates an ulcerated surface. The underlying connective tissue is infiltrated by acute and chronic inflammatory cells and shows a proliferation of young blood vessels. (B) The superficial part of the lesion consists of a proliferation of young blood vessels intermixed with acute and chronic inflammatory infiltrate (200 \times , hematoxylin and eosin staining). (C) The deeper part of the lesion is less inflamed, less vascularized, and comprises mature collagen fibers (200 \times , hematoxylin and eosin staining).

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