CASE REPORT

Multiple long-standing massive oral mandibular granuloma gravidarum (pregnancy tumour)

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SUMMARY

Oral granuloma gravidarum (OGG) is a distinct clinical entity used to describe pyogenic granuloma developing mainly on the gingiva of pregnant women, possibly propagated by gingival high levels of active progesterone and poor oral hygiene. We report herein a 41-year-old woman presented 7 months after childbirth with two painless masses of OGG in mandibular gingiva that developed at the end of first trimester and increased gradually in size even after delivery. Surgical excisional biopsy was performed under general anaesthesia with extraction of periodontally involved mandibular anterior teeth. Proper oral hygiene in pregnant women is mandatory to prevent such oral condition.

BACKGROUND

Oral granuloma gravidarum (OGG) or pregnancy tumour is characterised by a proliferative red-to-purple nodular mass arising mainly from the gingiva of a pregnant woman with tendency to have an ulcerated and haemorrhagic surface mucosa and usually is a solitary lesion which might regress spontaneously after birth.^{1 2} This case described here presented with two large masses of OGG in both anterior and posterior mandibular gingiva with poor oral hygiene that most probably contributed to their persistence and reaching this massive size.

CASE PRESENTATION

The patient, a 41-year-old woman, presented to the dentistry department with difficulty in chewing due to the presence of tender masses in her mouth since 13 months, which started to appear during the end of the first trimester of her newly born child. Her medical history was non-contributory. Extraoral examination revealed bilateral submental and sub-mandibular lymphadenitis. On oral examination she had very poor oral hygiene with heavy calculus deposits, severely inflamed gingiva and periodontally involved teeth with high grade of mobility. Halitosis was very marked with foul malodour measuring the highest score of five on Rosenberg and McCulloch³ organoleptical scoring scale. There were two pedunculated non-tender lobulated masses, with the largest arising from the anterior mandibular gingiva of the permanent incisors and the smallest arising from the gingiva of the mandibular right second permanent molar. Both masses had a haemorrhagic base in continuity with severely inflamed gingiva, and interfering with normal mastication and occlusion, resulting in subsequent chronic trauma from opposing teeth. The anterior

mass had a deep creamy reddish colour, more than the smaller posterior mass (figure 1A,B).

INVESTIGATIONS

Anterior mandibular occlusal radiograph demonstrated vertical bone loss involving mainly the floating left mandibular incisors (figure 2A,B). Serum glucose, calcium, phosphorus and alkaline phosphatase levels were within normal limits. Differential complete blood count revealed mild hypochromic microcytic anaemia.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis include focal gingival hyperplasia, fibroma, peripheral ossifying fibroma, peripheral giant cell granuloma, haemangioma, Kaposi sarcoma, angiosarcoma, non-Hodgkin's lymphoma and metastatic cancer.^{1 2 4}

TREATMENT

Owing to haemorrhagic nature and secondarily infected masses preoperative oral antibiotics were

Figure 1 (A) Anterior mandibular mass with haemorrhagic base and extending to the incisal edges of lower incisors. (B) Posterior mandibular mass in molar area interfering with normal posterior occlusion.

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Figure 2 (A) Anterior mandibular occlusal radiograph with alveolar vertical bone loss around mandibular incisors. (B) Posterior mandibular periapical radiograph with complete alveolar bone resorption and floating permanent first molar and remaining root of permanent second molar.

prescribed (amoxicillin 500 mg and metronidazole 500 mg three times a day for 1 week) together with 0.2% chlorhexidine gluconate mouthwash and encouragement of proper oral hygiene. Surgical excisional biopsy of the two masses with bilateral mental nerve, lingual nerve, right inferior alveolar and right long buccal nerve block anaesthesia (articaine 4% with 1:100 000 adrenaline) performed under general anaesthesia with extraction of the highly mobile mandibular anterior teeth. Resorbable sutures were placed and bleeding was secured from surgical sites.

Histopathological examination identified the specimens as polypoid masses lined with squamous epithelium with areas of extensive ulceration and acutely inflamed granulation tissue consistent with pyogenic granuloma (figure 3A,B).

OUTCOME AND FOLLOW-UP

The surgery was uneventful. Oral malodour subsided and the patient experienced improved mastication and reduction in oral soreness (figure 4). The patient is now under continuous follow-up to rehabilitate her periodontal condition.

DISCUSSION

OGG occurs as an isolated overgrowth in up to 5% of pregnancies with higher predilection for maxillary and anterior gingiva.² It represents as rapidly growing painless pedunculated or sessile mass arising mainly from the labial gingiva and on rare occasions can reach a large size.^{1 2 4 5} In almost 50% of

Figure 3 (A) Focal epithelial loss with subepithelial proliferation of blood vessels and inflammatory infiltrate with granulation tissue. Note the mature collagen fibre strands in deeper layers (×10, H&E stain). (B) Higher magnification with subepithelial multiple vascular channels and dense inflammatory infiltrate (×40, H&E stain).

Figure 4 Intraoral view 2 weeks postoperatively with reduction in gingival inflammation.

OGG there is new bone formation and rarely can cause alveolar destruction.⁵

In our patient the OGG was unusual as it was multiple unlike other OGG reported, and affecting both the anterior and posterior mandibular gingiva. In the patient described here they were long-standing for 7 months after delivery and did not regress after childbirth, as most of OGG. Furthermore, they attained a large size reaching to the occlusal level of teeth and interfering with normal functional occlusion. And finally, the OGG in our patient was associated with alveolar bone destruction resulting in high-grade mobility of the teeth which were lost eventually.

All these features in our patient are most probably exacerbated by the presence of dental plaque and calculus in addition to the high levels of gingival active progesterone which also an initiative factor for these lesions to develop.

Learning points

- Oral granuloma gravidarum (OGG) is essentially a pyogenic granuloma occurring usually in late first trimester and possibly aggravated by gingival high levels of active progesterone and poor oral hygiene.
- Most of OGG regress in size after birth but some might increase and become secondarily infected.
- When OGG reaches a massive size it can interfere with normal oral function and mastication thus surgical excision is essential.

Contributors All authors have contributed in diagnosis, treatment, comments and proofing the final manuscript.

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