CASE REPORT

Management of unusual case of Crocker and Hartzell's disease in a young patient with a 1 year follow-up

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SUMMARY

Soft tissue enlargements of the oral cavity often present a diagnostic challenge because a diverse group of pathological processes can produce such lesions. Crocker and Hartzell's disease is one of the most common entities responsible for causing soft tissue enlargements. It is a relatively common benign mucocutaneous lesion. Crocker and Hartzell's disease has been referred to by other names such as pregnancy tumour, pyogenic granuloma, granuloma pediculatum benignum, benign vascular tumour and vascular epulis. The incidence is 26.8–32% of all reactive lesions. It is seen mostly in second or third decade of life and commonly seen in women. The most frequently involved site is the maxillary gingiva; other sites are lip, tongue, buccal mucosa and palate. This paper presents a rare case of Crocker and Hartzell's disease found on mandibular anterior gingiva of an 8-year-old male patient.

alternative term for pyogenic granuloma is granuloma telangiectacticum and polypoid capillary haemangioma.⁷ The present case report is of an 8-year-old child with pyogenic granuloma in mandibular anterior gingival region which is rare.

CASE PRESENTATION

An 8-year-old male child presented with tissue overgrowth in the lower front gums. The overgrown tissues bled frequently and interfered with eating and brushing. His medical history was unremarkable. The patient's parent noticed the growth 1 month prior to admission, which was slightly smaller, than the size at the time of presentation. The patient could not recall the exact time of initiation of the growth. The overgrowth was gradual in size causing discomfort while eating and during brushing.

Intraoral examination revealed single well defined pedunculated swelling measuring 2.5 × 1 cm in size present on mandibular gingival region in association of teeth 31, 41 and 72. Surface was irregular, lobulated, reddish pink with surrounding mucosa appearing normal (figure 1). Bony involvement was not evident on examination.

INVESTIGATIONS

Clotting time and bleeding time were investigated before treatment and the values were within the normal limits.

DIFFERENTIAL DIAGNOSIS

Peripheral giant cell granuloma, epithelioid haemangioma, hyperplastic gingival inflammation, peripheral fibroma, bacillary angiomatosis, pregnancy

BACKGROUND

Soft tissue enlargements of the oral cavity often present a diagnostic challenge because a diverse group of pathological processes can produce such lesions. An enlargement may represent a variation of normal anatomical structures, inflammation, cysts, developmental anomalies and neoplasm. Within these lesions is a group of reactive hyperplasia, which develop in response to a chronic, recurring tissue injury that stimulates an exuberant or excessive tissue repair response. One of the most common entities responsible for causing soft tissue enlargements is pyogenic granuloma.¹ Pyogenic granuloma is a relatively common benign mucocutaneous lesion. Contrary to what the name implies frank pus or discharge is not present.² Pyogenic granuloma is defined as an inflammatory overgrowth of the oral mucosa caused by minor trauma or irritation.³ These injuries might be caused in the mouth by gingival inflammation because of poor hygiene, trauma or local infection⁴ or as a result of injury to a primary tooth.^{5 6}

Occurrence of pyogenic granuloma in man was first described in 1897 by Poncet and Dor. At that time, it was called botryomycosis hominis. It was given its present name by Crocker and Hartzell in 1904 who introduced the term 'pyogenic granuloma' which is widely used in the literature. The term 'haemangiomatous granuloma' which accurately expresses the histopathological picture (haemangioma like) and the inflammatory nature (granuloma) of oral pyogenic granuloma, an

Figure 1 Preoperative intraoral photograph.

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tumour, peripheral ossifying fibroma, peripheral odontogenic fibroma, haemangioma and conventional granulation tissue.

TREATMENT

Surgical excision of the lesion followed by curettage was performed under local anaesthesia (figure 2). The patient was discharged on complete haemostasis with postoperative instruction. The tissue was sent for histo-pathological investigation. H&E stained section under microscopic examination showed atrophic parakeratinised stratified squamous epithelium with flattened rete ridges. Stroma showed proliferation of endothelial cells and is richly vascular consisting of small to large, round to variable shaped thin walled blood vessels with intravasated and extravasated blood elements. Moderately dense diffuse inflammatory cell infiltration chiefly consisting of lymphocytes is seen. These findings are suggestive of pyogenic granuloma (figure 3).

OUTCOME AND FOLLOW-UP

The patient revisited after 1 year, there was no recurrence of the lesion (figure 4).

DISCUSSION

Hyperplastic reactive lesions represent group of one of the most common oral lesions. In this group, the most common group is represented by hyperplastic reactive gingival/alveolar lesions, including inflammatory gingival hyperplasia, oral pyogenic granuloma, peripheral giant cell lesion and peripheral cemento-ossifying fibroma.⁸

The incidence of pyogenic granuloma is 26.8%–32% of all reactive lesions. Pyogenic granuloma is seen mostly in second or third decade of life and commonly seen in women.⁹ The most frequently involved site is the gingiva^{10 11} other sites are lip, tongue,¹² buccal mucosa and palate. The most frequently involved site is maxillary gingival,¹³ but in the present case the lesion was found in a boy who is in his first decade of life and the lesion was present on the mandibular anterior region which is an unusual location.

Some authors suggest pyogenic granuloma as an 'infectious' entity. Staphylococci and botryomycotic infection, foreign bodies and localisation of infection in walls of blood vessel are contributing factors in development of the lesion. According to Shafer *et al*¹⁴ oral pyogenic granuloma arises as a result of infection by either staphylococci or streptococci, partially because it was shown that these micro-organisms could produce colonies with fungus like characteristic. Kelley AP and Bernard AC regard pyogenic granuloma as a 'benign, acquired, vascular, neoplasm'. Recently, the angiogenesis-associated factors Tie2,

Figure 3 Histo-pathological report.

angiopoietin-1, angiopoietin-2, ephrin B2 and Eph B4 have been detected in pyogenic granuloma by immunochemistry.¹¹

Radiographical findings are absent in pyogenic granuloma but localised alveolar bone resorption in rare instances of large and long standing gingival tumours can be seen.¹⁵ Surgical excision is the treatment of choice. After surgical excision of gingival lesions, curettage of underlying tissue is recommended. Pyogenic granuloma lacks infiltrative or malignant potential.¹⁶ Another modality for treatment of pyogenic granuloma reported is cryosurgery which is a safe, easy and inexpensive technique suited for out patient's clinic setting.¹⁷ Nd:YAG and CO₂ and flash lamp pulsed dye lasers have also proved to be a successful option for excision of pyogenic granuloma with advantages of minimal pain and invasiveness and the lack of need for suturing or packing.¹⁸ Histologically pyogenic granuloma is partly or completely covered by parakeratotic or non-keratinised stratified squamous epithelium. Major bulk of the lesion is formed by a lobulated or a non-lobulated mass of angiomatous tissue. Usually, lobulated lesions are composed of solid endothelial proliferation or proliferation of capillary sized blood vessels. The amount of collagen in the connective tissue of pyogenic granuloma is usually sparse. Oedema is a prominent feature and in lesion with ulcerated surface which is usually infiltrated by plasma cells, lymphocytes, neutrophils and isolated giant cells.¹⁸ In our case microscopic examination showed atrophic parakeratinised stratified squamous epithelium with flattened rete ridges and is richly vascular consisting of small to large blood vessels.

Figure 2 After excision.

Figure 4 One year followup.

Learning points

- ▶ A pyogenic granuloma is an exuberant growth of granulation tissue secondary to irritation.
- ▶ It can present with a wide array of clinical appearances, ranging from a sessile lesion to an elevated mass.
- ▶ Pyogenic granuloma should always be kept in mind as a differential for reddish lesions affecting oral cavity.
- ▶ Pyogenic granuloma is seen mostly in second or third decade of life and commonly seen in women, this report presents a case of pyogenic granuloma seen on unusual location that is, lower anterior gingiva in an 8-year-old male patient, a rare age group.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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