CASE REPORT

“Lobular capillary hemangioma in a rare location” – A case report

Ramya Rai, Shreya Dasgupta, Prashant Babaji, K. K. Shashibhushan

Department of Pedodontics and Preventive Dentistry, Sharavathi Dental College and Hospital, Shimoga, Karnataka, India

Abstract

A female patient presented with an unusual location of pyogenic granuloma on the ventral surface of the tongue. These lesions are seen mostly between ages ranging from 11 to 40 years and occur frequently on gingiva but less frequently on the tongue. Identification of the primary etiological factors and its removal followed by excisional biopsy with definitive histopathological diagnosis was done. Follow-up of the patient showed no recurrence.

Keywords: Capillary, hemangioma, lobular, tongue

Introduction

Pyogenic granuloma (PG) or Lobular capillary hemangioma (LCH) is a common benign soft tissue tumor that is thought to arise from the connective tissue of the skin or mucous membrane. The term PG paradoxically neither implies to a lesion that is infectious nor granulomatous, but on the contrary, it is a reactive inflammatory process to some low-grade chronic irritation.[1]

Occurrence rate of PG is most commonly on the gingiva (almost 75%) and other affected sites being dorsum of the tongue, buccal mucosa, and lips.[2] The present case reports with an unusual location of PG on the ventral surface of the tongue.

Case Report

A 12-year-old female reported to the Department of Pedodontics and Preventive Dentistry of Sharavathi Dental College and Hospital with a chief complaint of growth below the tongue for 6 months. No significant medical history was elicited by the patient.

The growth was first noticed 6 months back, and during this time period, it would spontaneously increase or decrease in size. Since the past 1 month, the swelling appeared to be gradually increasing in size and caused discomfort to the patient during speech and mastication. There was no pain associated with the swelling.

On inspection, a well-defined, reddish pink solitary localized exophytic growth was seen in the midline of the ventral surface of the tongue. The surface was smooth with no ulcerations. Miller’s Class III gingival recession with respect to 31 and 41 was seen on intraoral examination with moderate calculus [Figure 1].

On palpation, inspection findings were confirmed. The swelling appeared to be sessile, leaf-like in shape and measured approximately 1.5 cm × 0.5 cm in size. It was soft in consistency, non-mobile, afebrile, non-tender with no thrill and blanched on the application of pressure. There was no fluctuation, translucency, or indentation associated with the lesion.

Based on history and clinical examination, a provisional diagnosis of PG was given, and surgical excision under local anesthesia was planned. Before surgery, written consent was obtained by the patient and also permission for usage of images for academic purposes was obtained. Routine blood investigations were within normal range.

Perioral structures were prepared with betadine and the soft tissues were adequately anesthetized. The tip of the tongue was sutured and elevated upward to obtain the visibility of the lesion. A Bard-Parker blade number 15 was used for excision. An elliptical incision was given at the base of the lesion for its removal [Figure 2]. Along with the excised lesion, 2 mm of healthy tissue was also excised. The area was checked for remnants of tissue
tags and granulation tissue. After which copious irrigation with povidone-iodine was done and interrupted sutures were placed with 3–0 silk [Figure 3]. The excised lesion was stored in a formalin solution and sent for histopathological examination [Figure 4].

The patient was then recalled after 1 week for suture removal. 2 weeks later, the patient showed healing of the excised area with the absence of any post-operative complications.

**Discussion**

The rate of occurrence of PG is between 26.8% and 32% and is seen mostly in all age groups mostly between 11 and 40 years.\(^3\) Pathogenesis of the occurrence of PG is unclear; however, many factors such as trauma, chronic irritation and hormonal changes have been suggested. The incidence of the occurrence of PG is more in females than males in the ratio 3:2.\(^4\) In the present case, PG was diagnosed in 13-year-old female patient. Menarche can be one of the reasons for the occurrence of the lesion in this case as changes in hormonal levels occurs during this phase.

The presence of moderate calculus accounts for the chronic irritation of the mucosa of the ventral surface of the tongue. The presence of these two factors synergistically can be considered as etiological factors of the PG. PG is an inflammatory hyperplasia affecting the oral tissues possibly caused by the presence of calculus and foreign material.\(^5\) Due to the raised level of sex
hormone and progesterone in females, the occurrence of LCH is encountered more in females and similar features are seen in the present case. Thus, the presence of moderate calculus was considered as primary etiological factor fuelled with hormonal changes caused the proliferating growth. Therefore, the patient first underwent oral prophylaxis where the primary etiological factor calculus was eliminated. Since the clinical presentation of PG is variable, it can mimic other oral lesions in children; thus, differential diagnosis of fibroma, Kaposi’s sarcoma, metastatic tumor, bacillary angiomatosis, hemangiopericytoma, and peripheral giant cell granuloma was made, therefore excisional biopsy of the lesion was done for confirmation. Final diagnosis was made based on the histopathological report. Histopathological evaluation of the present case revealed proliferating blood vessels with mixed inflammatory infiltrate in an edematous stroma [Figure 5]. Thus, histopathological report is in accordance with the clinical finding.

Two histological variants of PG have been described: LCH and non-LCH. In LCH, vessels are seen in lobular aggregates with proliferating blood vessels with small luminal diameter. Whereas in non-LCH, a vascular core resembling granulation tissue with focal fibrous tissue is observed.[8] The histological finding in the present case showed similar finding as LCH.

Surgical excision of the lesion was done using conventional technique which showed good prognosis with no post-operative complication. Other alternative techniques are cryosurgery, laser surgery with Nd: YAG, CO₂, and flashlamp pulsed lasers.[9] Recurrence is rare but hormonal changes during puberty may cause the lesion to reoccur.[10] Thus, follow-up in such cases is mandatory.

Conclusion

Many oral lesions may mimic other tumor-like lesions; thus, patient’s history along with scrutiny of the etiological factors will help us arrive at a definitive diagnosis which should be confirmed by proper laboratory investigations such as histopathological investigation to rule out other neoplastic or non-neoplastic lesion. In the present case, the removal of the primary etiological factor, calculus, along with oral health education and follow-up lead to the successful clinical outcome.

Clinical Significance

Early diagnosis and treatment planning are the essence of surgery. As the adolescent patient’s value esthetics, it is the duty of the pedodontist to educate and motivate them.

References