Management Of Capillary Hemangioma In The Oral Cavity Of A Pregnant Patient: A Rare Case Report

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ABSTRACT : Hemangiomas are benign tumors composed of blood vessels. Capillary hemangiomas are developmental hamartomatous lesions of the vascular tissue, which are common in infancy and adolescents. Head and neck are the most prevalent sites for origin of hemangiomas, but are rarely observed in the oral cavity. This paper presents a rare case report of capillary hemangioma on the palate of a pregnant patient, which was managed by laser therapy with satisfactory uneventful healing. The characteristic clinical and histo-pathologic features of vascular tumors and malformations, especially capillary hemangiomas are discussed.

Keywords: *Capillary hemangioma, Pregnant, Laser*

Introduction

Hemangiomas are benign tumors composed of blood vessels. Based on their histological appearance, they are classified as capillary, mixed cavernous, or a sclerosing variety that tends to undergo fibrosis.¹ It is the most common benign tumor of the head and neck region especially in children, but it rarely occurs in the oral cavity. Although, it is considered as one of the common soft-tissue tumors of the head and neck, it is relatively rare in the oral cavity. Capillary hemangiomas are composed of many small capillaries lined with a single layer of endothelial cells supported in a connective tissue stroma of varying density.² Previous studies show that it has a higher incidence rate in females and usually occurs in the lips, cheeks and tongue.³

Case Report

A 20 year old pregnant female patient reported with a painful swelling with bleeding in the palatal area of upper left back teeth (Figure 1). The swelling was noticed 3 months back, which gradually increased in size, with a history of frequent bleeding while eating and swallowing. Frequency of bleeding had increased since 1 week. Patient was in her fourth month of pregnancy without any other relevant medical history.

On intra-oral examination, a 2cm × 2 cm sized solitary, sessile, rhomboid shaped, reddish pink swelling with distinct borders and irregular surface was seen on the palatal aspect of 25 and 26 (Figure

3 & 4). The surrounding palatal mucosa was normal. On palpation, the swelling was non-tender, soft to firm in consistency and blanched on pressure. Intra-oral hard tissue examination and radiographs were normal (Figure 2). Pre-operative hematological examination revealed all readings within normal parameters. Based on the clinical appearance of the lesion and history, a provisional diagnosis of pyogenic granuloma was made. The differential diagnosis included hemangioma, fibroma and peripheral giant cell granuloma.

After obtaining a written informed consent from the patient, supragingival scaling and patient education was done regarding good oral hygiene maintenance. After 1 week, laser excision of the growth was done under local anesthesia (Figure 5). The excised tissue (Figure 6) was fixed in 10% neutral buffered formalin and was sent for routine histopathological examination. Post-operative bleeding was arrested by laser banding of the excised area (Figure 7). Periodontal dressings were placed in the excised area and post-operative instructions and analgesics were given (Figure 8). Patient was recalled after 1 week, periodontal dressings were removed (Figure 9). The healing was uneventful and satisfactory. Patient was kept in maintenance phase with a periodic recall of every 6 months and no recurrence was reported (Figure 10).

Histopathologically, the excised specimen showed mucosa lined by parakeratotic squamous epithelium with underlying subepithelium showing proliferated

small and medium sized blood vessels lined by endothelium (Figure 11 & 12). The stroma shows fibrous tissue and inflammation. Correlating the microscopic features with the clinical picture, histopathological examination confirmed the diagnosis as "Capillary hemangioma".

Discussion

Hemangiomas are common benign tumors of the head and neck region but their occurrence on the palatal mucosa is extremely rare.⁴ In 80% of cases, hemangiomas occur as single lesions. Histologically they are classified into capillary and cavernous types.⁵ Hemangiomas are considered to be benign tumors of infancy, characterized by a rapid growth phase with endothelial cell proliferation followed by gradual involution.⁶ They constitute 7% of all benign tumors in infancy and childhood that present rarely in the oral cavity. In addition, confusion with other conditions can occur since hemangiomas may mimic other lesions clinically, radiographically and at times histologically. Capillary Hemangiomas (CH) are most often recognized at an early age with female predilection (ratio of 3:1) in second and third decades of life.⁷ Clinically, hemangiomas of the oral soft tissues appear as a painless, soft, smooth or lobulated, sessile or pedunculated mass and may be seen in any size from a few millimeters to several centimeters.⁸ The development of these lesions are usually slow with deep red or bluish red in colour. Periodontally these lesions often appear to arise from the interdental papilla and spread laterally to involve adjacent teeth which is usually painless.

Vascular anomalies of head and neck historically have confused clinicians which have resulted in difficult study, improper diagnosis, and inappropriate treatment. The differential diagnosis of hemangiomas includes pyogenic granuloma, peripheral giant cell granuloma, peripheral ossifying fibroma, chronic inflammatory gingival hyperplasia (epulis) and squamous cell carcinoma.⁹ The classification of hemangiomas is based on histological appearance; therefore histopathological assessment remains the most accurate and satisfactory means of diagnosis. Since capillary hemangioma and pyogenic granuloma exhibit similar clinical features, biopsy of the lesion is mandatory for definitive diagnosis and to rule out more serious conditions.

The management of hemangiomas of the oral mucosa varies according to the various factors like the age of the patient, the size of the lesion, the site of involvement and the clinical nature of the hemangioma.¹⁰ The most common treatment of choice for hemangioma is surgical excision of the lesion with or without ligation of vessels and embolization.¹¹ Recently other treatment modalities are also developed which includes steroid therapy, electrosurgery, Nd: YAG laser, CO₂ laser, diode laser, cryosurgery and use of sclerosing agents.¹² Surgical management should be executed with caution taking into consideration the possibility of bleeding intra-operatively and post-operatively.

The present case in the discussion is significant because of its uncommon location in the palate of a pregnant patient. Radiographs are advised to rule out bony destruction which is suggestive of central variety of hemangioma, malignancy and to identify the presence of any other foreign body which has to be removed along with the lesion. In the present case, laser excision was preferred as the patient was pregnant and the lesion was large and it bled on palpation. Laser excision of the lesion seems to be a safe and non-invasive method whereby a pregnant patient can be managed without any complications. The healing was uneventful and satisfactory. The patient responded well to the treatment, and was kept on maintenance visits for 1 year. No recurrence has been reported till date.

Conclusion

Capillary hemangioma is a lesion that is diagnosed primarily on histological findings. Although, it is asymptomatic, its peculiar location may require immediate intervention. The case in the discussion was worthy of importance because of its uncommon location on palate of a pregnant patient. Lesions in this area often lead to impaired nutrition and oral hygiene, increased accumulation of plaque and microorganisms and thereby increased susceptibility to oral infections. The clinical picture and location of the lesion led to a provisional diagnosis of pyogenic granuloma, but histological findings were suggestive of capillary hemangioma. Early detection and biopsy of such lesions is necessary to institute appropriate management. In addition, the surgical management should be performed with caution because the tissues may bleed profusely intra-operatively and post-operatively.

Figure 1. Pre-operative view

Figure 2. Pre-operative IOPAR of the site

Figure 3. Pre-operative measurements

Figure 4. Pre-operative measurements

Figure 5. Laser excision of the lesion

Figure 6. Excised tissue

Figure 7. After excision and laser banding

Figure 8. Coe – pack placed in the site

Figure 9. Post-operative view after 1 week

Figure 10. Post-operative view after 6 months

Figure 11. H&E stain low power magnification x10x

Figure 12. H&E stain high power magnification x 40x

Dental surgeons should be aware of the risks while managing these innocent lesions and should take necessary precautions prior to attempts at excision of these lesions as it often mimics other lesions clinically and require appropriate clinical diagnosis and proper management. Early detection and biopsy is necessary to determine the clinical behaviour and potential dentoalveolar complications

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