PSEUDOEPITHELIOMATOUS HYPERPLASIA: A CASE REPORT AND REVIEW

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ABSTRACT

Pseudoepitheliomatous hyperplasia (PEH) is a histopathological reaction pattern to various stimuli, which includes trauma, infection, inflammation, neoplasia. It is seen as tongue like epithelial proliferation invading the connective tissue and should not be mistaken for squamous cell carcinoma (SCC). Proper surgical interventions should require treating the condition. This case report shows unique case of PEH on left posterior hard palate as non-healing ulcer since month. Different treatment modalities, failure of those modalities are discussed in the article. Finally, the case was successfully treated with appropriate surgical intervention with buccal fat pad advancement and reconstruction. Remission of the condition on subsequent follow ups were observed.

Keyword: - Pseudocarcinomatous hyperplasia, pseudoepitheliomatous hyperplasia, squamous cell carcinoma, buccal fat pad

1. INTRODUCTION

Pseudoepitheliomatous hyperplasia (PEH) is a histopathological reaction pattern to various stimuli, which includes trauma, infection, inflammation, neoplasia. PEH is a reactive epithelial proliferation, and its diagnosis can be a great challenge as this condition mimics many other malignant lesions, especially squamous cell carcinoma (SCC). Hence, until a biopsy is performed, even the most experienced medical practitioner may get mislead in diagnosing this condition. Herein, we report an interesting case of PEH treated with buccal fat pad. [1]

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2. CASE STUDY

A 67-year-old male patient reported to the department of oral and maxillofacial surgery of darshan dental college & hospital, Udaipur, India, with chief complaint of a painful non-healing ulcer on the left posterior hard palate since one month (Fig.1).

Patient visited several doctors for the same problem but did not get efficient relief. The patient was earlier treated with analgesic. But lesions did not show any notable remission. On general medical examination, patient was found diabetic and was on the medication for the past 10 years for the same. Family history and social history were non-

contributory. He had been wearing a maxillary partial denture from past ten years. Routine blood investigations were normal at the time of examinations. Extra-oral examination didn't show anything. The temporomandibular joint (TMJ) revealed no abnormality. The intraoral examination revealed a single ulcer on left side on palate 1mm from 1st maxillary molar towards midline.

The ulcer was irregular in shape and shallow, with size varying from 2cm to 3cm with sloping margins. Ulcer was surrounded by erythematous halo. Floor of the ulcer was covered with pseudomembranous slough. On palpation, all inspectory findings were confirmed. The ulcer was tender with no induration at borders and margins. Based on the history and clinical presentation of the lesions, diagnosis of a chronic non-healing ulcers was given with a differential diagnosis of necrotizing sialo metaplasia and squamous cell carcinoma.

We planned an incisional biopsy of the lesion under local anesthesia. Patient was fully informed of the procedure and gave consent for his images and clinical information to be published for teaching and educational purpose. Incisional biopsy was performed (Fig.2) and the specimen was sent for histo-pathological examination. Patient was then advised, not to wear the old denture for the next 30 days. Histopathological examination revealed the lesion as fibrous hyperplasia. The lesion size diminished after discontinuation of denture initially then patient failed to comply with instructions, patient again came up with increased size of the lesion along with slough formation after 20 days. After careful examination, we planned an excisional biopsy.

Adequate surgical interventions were performed, and the tissue was sent for histopathological examination again. The histopathological examination revealed hyperkeratotic, irregular and infiltrative projections of squamous epithelium with reactive epithelial changes. Subepithelial stroma shows dense collection of chronic inflammatory cells with areas of necrosis granulation tissue formation suggestive of pseudoepitheliomatous hyperplasia.

The defect was excised again and covered with buccal fat pad and surgicel , an absorbable material. The surgical site was secured with multiple simple interrupted silk sutures (Fig.3).

. Following 15 days to surgery, the results were quite satisfactory. Alongside remission of lesion was detected (Fig.4). Patient was then put on regular follow ups.

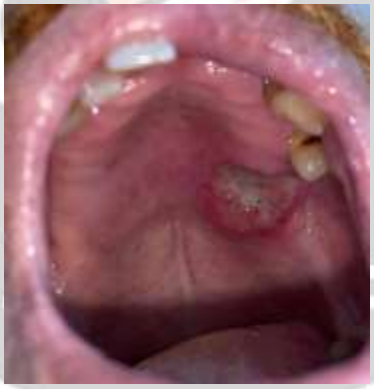

Fig -1: Non-healing ulcer on the left posterior hard palate

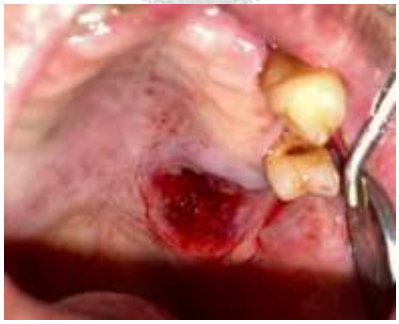

Fig -2: Incisional biopsy of the lesion

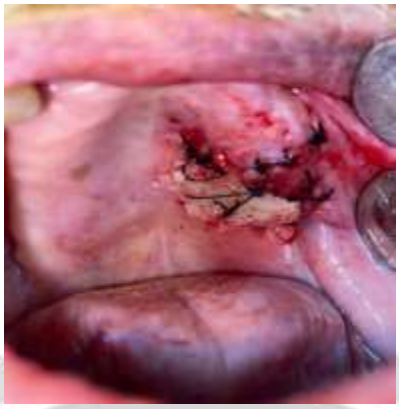

Fig -3: Excision of lesion with buccal pad advancement covered with nonabsorbable silk sutures.

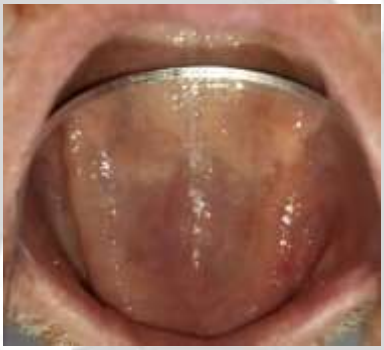

Fig -3: Remission of lesion (15 th post operative day)

4. DISCUSSION

PEH is a benign condition characterized by hyperplasia of the epidermis and adnexal epithelium. PEH may be primary (e.g., primal gingival PEH) or secondary (e.g., granular cell tumor or chronic irritation). [1] It can be a result of various conditions such as infections, inflammation, trauma, and malignancy and is also referred to as pseudo carcinomatous hyperplasia. Usually, PEH appears as a well-demarcated plaque or nodule with scaling and crusting. Papules or nodules may range from less than 1 cm to several centimeters in size. The color of the lesion may be as that of the mucosa or pigmented as in case of melanoma.[2] Pathogenesis of PEH is probably the release of cytokines produced by the tumor and inflammatory cells lead to a proliferation of the overlying epithelium.[3]
Histological grading of PEH puts it into three types:[4]

• Grade I: Hyperplasia, acanthosis, elongation of rete ridges to sweat glands, and intact basement membrane

• Grade II: Noticeable proliferation of the rete ridges and extension deeper, irregular interpapillary projections, indefinite basement membrane, and cells epithelial down growth assumes embryonic character

• Grade III: Mixture of irregular extensions of the epithelial down growth with the granulomatous formation and embryonic cell character. Appearance similar to well-differentiated SCC. The differential diagnosis of PEH is SCC, keratoacanthoma,
granular cell tumor, necrotizing sialo metaplasia, malignant melanoma, and verrucous carcinoma.[4] It is often difficult to distinguish PEH from SCC. The SCC shows increased staining for p53 and MMP-1 and less intense staining for E-cadherin [5] plus, the universal cytological criteria for SCC are nuclear enlargement, hyperchromatic, irregular nuclear outline, coarse nuclear chromatin, and prominent nucleoli.[6] The presence of a nodular lesion with feeder vessels and intrinsic vascularity should raise a suspicion of invasive SCC [7].

Complete excision and buccal fat pad is the most appropriate management for this condition as difficulty prevails in clinically and histologically differentiating PEH from low-grade SCC.

Soft tissue coverage is an essential step for successful wound healing (8) Vascularized grafts may be considered as first choice of treatment in oral reconstruction but have limitations. Patients with compromised wounds usually have poorly vascularized tissue, and patients with severe diabetes mellitus have difficulties with capillary regeneration [9]. These patients have demonstrated higher rates of postoperative infection and graft failure. However, vascularized grafts should be performed under general anesthesia and require a long operation time. Donor site morbidity and an additional scar are the disadvantages of using vascularized grafts [10].
Buccal fat pad flap (BFP) has been used for the reconstruction of maxillary defects induced by tumor since it was first reported in 1977 [11]. From then, many clinical applications of BFP have been introduced. The buccal fat pad appears 3 months in utero and continuously grows until birth. There is little change in the volume of buccal fat during aging, and it is approximately 10 mL [12]. The buccal fat pad has abundant blood supplies from the maxillary artery and the superficial and deep temporal artery. There are rich capillary networks within the capsules that cover the fat pad. Arterioles enter the capsule from several directions and break up into capillary plexuses. Most of the blood from the fat pad drains into the facial vein [13]. Most published studies have reported a high success rate among BFP procedures due to BFP's rich vascularity, proximity to the recipient site, low donor-site morbidity, and simple surgical procedure for grafting. Therefore, it is a reliable flap for the reconstruction of oral defects.[14]

5. CONCLUSION

Pseudoepitheliomatous hyperplasia is rare histological reaction which may mimic certain carcinomas. Proper surgical interventions with soft tissue coverage of the defect is essential to treat this condition rather than using conventional symptomatic treatment.

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