Case report

Verruciform Xanthoma : A Case Report

ABSTRACT:

Verruciform xanthoma is a benign growth found on the oral mucosa and occasionally may affect the skin. Clinically, verruciform xanthoma is an asymptomatic lesion. Depending on the amount of keratin present on the surface of the oral mucosa, it can appear as a reddish-gray papillary, flat or a slightly raised, rough lesion. The verrucous structure and exophytic properties of these lesions are similar to those of malignant lesions; therefore, histopathological assessment is mandatory for definitive diagnosis. Herein, we report a case of oral verruciform xanthoma on the lower right labial vestibule and to confirm the diagnosis immunohistochemistry was done which showed positive CD 68 macrophages.

Keywords: Xanthoma, immunohistochemistry, CD 68

INTRODUCTION:

Verruciform xanthoma [VX] is an uncommon benign lesion primarily of the oral mucosa with an incidence rate of 0.025-0.05% of all the pathology cases. In 1971, Shaferfirst described the entity[1]. The etiopathogenesis of verruciform xanthoma is unknown, though been identified in several parts of the body. Most frequently encountered sites for oral lesion are gingiva, alveolus and hard palate[2]. It is most commonly presented with a verrucousappearance, however in some instances it may appear polypoid, papillomatous, or sessile. It occurs as a small (0.2–2 cm), solitary, asymptomatic, slow growing, white or yellowish red lesion with no sex predilection[3,4]. Histopathological examination is the gold standard for the diagnosis of verruciform xanthomas. Microscopically, these lesions are characterized by the presence of parakeratinized stratified squamous epithelium having papillary or verrucous growth with connective tissue papillae extending up to the surface. The papillae characteristically contain foam cells called xanthoma cells[5]. The treatment of the VX lesion involves local surgical excision and recurrence is rare[4].

Comment [D1]: •It will be excellent if author adds the ETYMOLOGY of term VX with reference.i.e., Latin word .Verruca=wart
•Forma=like
•Resembling ,shaped like wart
•Greek word *xanthos*, means "yellow",
•Refers to deposition of yellowish cholesterol rich material that can appear anywhere in the body in various disease states

CASE REPORT:

A 52year-old male patient presented with the chief complaint of a painless growth on the right labial vestibule since 4-5 months (Figure 1). He had a habit of tobacco chewing for the past 15 years. On clinical examination, whitish pink, exophytic lesion, measuring 1x 1 cm approx.in size, was found over lower right labial mucosa. The lesion was asymptomatic and soft in consistency. Lymph nodes were not palpable. A provisional diagnosis of verrucous hyperplasia was made. After clinical examination an excisional biopsy was done to rule out malignancy. Grossing examination showed verrucous projections with pebbly surfaces (Fig 2). On histopathological examination, the hematoxylin and eosin (H&E) stained sections showed parakeratinized stratified squamous epithelium with underlying fibro cellular connective tissue stroma. Epithelium showed varying degrees of exophytic proliferation with thin rete ridges and entrapped connective tissue core. Mild dysplastic features such as nuclear hyperchromatism and increased nuclear cytoplasmic ratio were evident. Adjacent papillary connective tissue showed presence of large foam cells. Mild degree of chronic inflammatory cell infiltrate and vascularity was evident throughout connective tissues (Figures 3 and 4). Deeper section showed salivary gland acini, transverse section of muscle fibers and nerve bundles. Overall features suggestive of Verrucous hyperplasia with mild dysplasia. To eliminate Verruciform Xanthoma, PAS and IHC staining was performed. PAS staining was found to be negative. The immunohistochemical staining for CD68 was positive for the foamy macrophages. All the foam cells were strongly stained

with anti-macrophage antibodies (Figures 5 and 6). Surgical excision was done under local anesthesia. Postoperative check-up showed no sign of recurrence.

Fig 1 : Whitish pink exophytic growth on right labial mucosa of lower lip

Fig 2 : Grossing of the specimen showing prominent crypts resembling pebbly surfaces (Stereomicroscope)

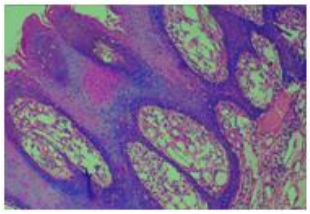

Fig 3 : Photomicrograph showing papillary projections with thin epithelial rete ridges withconnective tissue papillae having numerous xanthoma cells (H&E Stain, 10X)

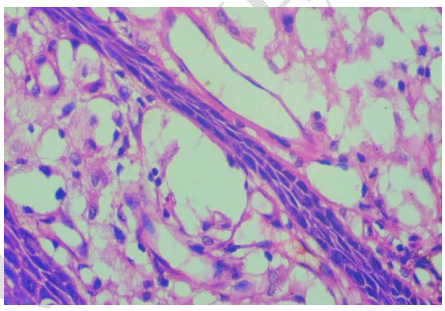

Fig 4: Photomicrograph showing presence of xanthoma cells (H&E stain,40X)

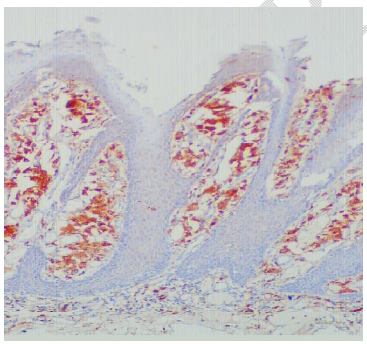

Fig 5: Photomicrograph showing foam cellswith strong immunoreactivity to antibody CD68 (IHC stain,10X)

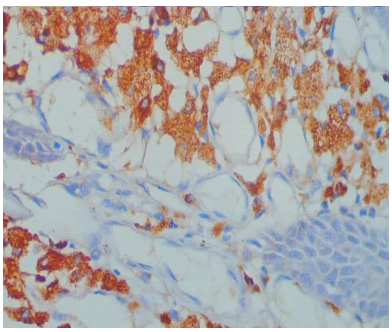

Fig 6 : Photomicrograph showing foamyhistiocytes with strong cytoplasmic CD68 immunostaining(IHC stain ,40X)

DISCUSSION:

VX is a benign epithelial lesion that irrespective of intra or extraoral developmentcan simulate benign and malignant lesions causing diagnostic dilemmas. Extraoral verruciformxanthoma was first described on vulva by Santa Cruz and Martin[6]. The most common intraoralsites of its occurrence are gingiva, alveolar mucosa and hard palate[2]. The etiology still remainsobscure. It can be because of the damage to the squamous cells due to trauma, local irritation or infection, which can cause epithelial entrapment and increased epithelial turnover leading to the disease. The epithelial degeneration leads to an inflammatory response and releases lipid material from the degenerated cells[4]. The damaged and degenerating keratinocytes that move downwards into the papillary dermis and submucosal region are engulfed by dendritic cells, which develop into foam cells[1].

Because of its clinical and histopathological resemblance to human papilloma virus-induced lesions, verruciform xanthoma was believed to be caused by HPV. However, no evidence was found for the presence of HPV in these lesions[7]. Cobb et al. supported the theory that VX is inflammatory in origin, generally occurs on the masticatory mucosa while some authors interpreted that it is an immune-mediated process[8]. Verruciform Xanthoma is associated with conditions such as pemphigus vulgaris, lichen planus, discoid lupus erythematosus, warty dyskeratoma, epidermal nevus/CHILD nevus, dystrophicepidermolysis bullosa and seborrheic keratosis[9].

Clinically, the lesions presented a papillary aspect, pink to white color, normally ranging between 0.2 to 2 cm. Neville et al., described that it may differ from “white and verruciform” to “red and ulcerated”[10]. It may be sessile or pedunculated and can resemble leukoplakia or squamous papilloma. Most commonly occurs in 4th–6th decade of life with equal distribution between both gender. However, it has been reported that there is a slight male predilection[3,4,11]. Intraorally, the lesion is usually present on alveolar ridge, gingiva, followed by buccal mucosa, palate, floor of the mouth and lip[9,12]. In our case, whitish pink, exophytic lesion, measuring 1x 1 cm approx.in size, was found over lower right labial mucosa which was asymptomatic and soft in consistency.

Histologically, VX shows three patterns: verrucous or warty (most common), papillary or cauliflower (least common), and flat or slightly raised[13]. The papillary pattern exhibits a finger- like exophytic epithelial proliferation covering thin cores of connective tissue, whereas in the flat pattern, the lesion demonstrates “endophytic” (below the surface) growth. In the flat pattern, abundant foamy cells accumulation can be observed in the lamina propria, thus leadingto the rete ridge elongation and thinning of the covered oral epithelium through compression[14]. Nowparast et al., suggested that the verrucous and papillary pattern may be secondary to the presence of foam cells affecting the nutrition and metabolism of the epithelial cells leading to a hyperkeratotic change[13]. Sometimes, there is parakeratosis of the hyperplastic epithelium. The rete pegs are thin, elongated and uniform.

The connective tissue papillae between the rete pegs are characterized by massive accumulation of large swollen foam cells known as xanthoma cells, which are restricted to the extension of the rete pegs. The cytoplasm of the foam cells contains tiny PAS-positive granule. The nuclei are small, round and eccentrically placed[15]. Still, controversy over the exact origin of these cells exists. They are suggested to be a lineage of monocytes/macrophages[14,16]. The lipid found in the xanthoma cells resembles the same as seen in other inflammatory reactions[9]. In our case, parakeratinized stratified squamous epithelium showed varying degrees of exophytic proliferation with thin rete ridges and entrapped connective tissue core. Mild dysplastic features such as nuclear hyperchromatism and increased nuclear cytoplasmic ratio were evident. Adjacent papillary connective tissue showed presence of large foam cells. Also, mild degree of chronic inflammatory cell infiltrate and vascularity was evident throughout connective tissue. CD68 is a cytoplasmic marker confirming the possible role of macrophages in the formation of foam cells[9]**.** In our case, the foam cells showed strong CD68 immunoreactivity. Mostafa et al. were the first to show the positivity of CD68 in foamy cells of verruciform xanthoma[14]. The treatment of choice is complete surgical excision which is very effective with no signs of recurrence.

CONCLUSION:

Verruciform Xanthoma is a rare muco-cutaneous lesion because of multifactorial chronic reactive process. It`s clinical appearance is not pathognomonic. The histopathological examination and IHC marker CD68 are the paramount for accurate diagnosis.The clinicians should be aware that clinically,

verruciform xanthoma may mimic malignancy. Hence, it should be considered in the differential diagnosis of commonly occurring verruco- papillary lesions in the oral cavity.

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