Net Quiz

Asymptomatic nodule on the tongue

An 8-year-old female child presented with an asymptomatic nodular lesion of mucosal color on the dorsum of the tongue since the last 1 year. The lesion gradually increased in size since it was first noticed. There was neither history of bleeding from the lesion nor any history of trauma. Examination revealed a single, pink, sessile, firm and smooth-surfaced nodule of size 0.5 cm x 0.5 cm on the dorsum of the tongue [Figure 1]. There was no significant lymphadenopathy in the cervical region.

An excision biopsy of the nodule was performed. The histopathological examination showed hyperplastic epidermis and densely packed collagen fibres in the dermis [Figure 2]. Other features seen were parakeratosis and dermal tissue containing many stellate-shaped cells in the vascular and fibrous connective tissue [Figure 3]. Also, there were multiple multinucleated cells (marked with arrow in Figure 4) with oval nuclei and abundant eosinophilic cytoplasm just beneath the hyperplastic epidermis [Figure 4].

WHAT IS YOUR DIAGNOSIS?

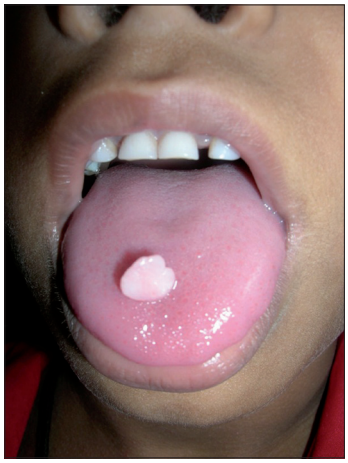

Figure 1: Pink-colored nodule on the dorsum of the tongue

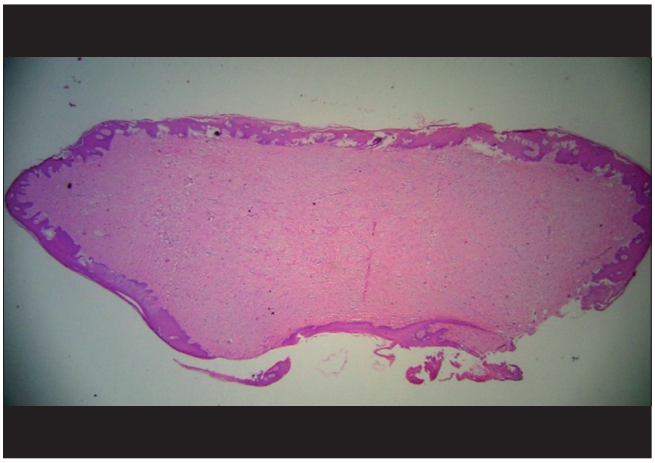

Figure 2: Hyperplastic epidermis and densely packed collagen in the dermis (H and E, ×25)

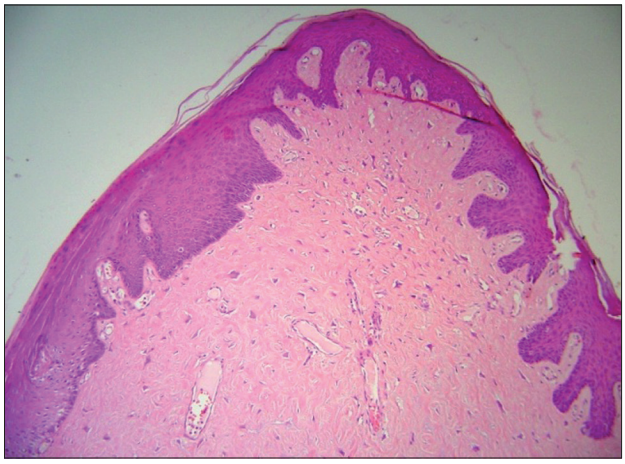

Figure 3: Epidermal hyperplasia along with parakeratosis and stellate-shaped cells in the vascular and fibrous connective tissue in the dermis (H and E, ×200)

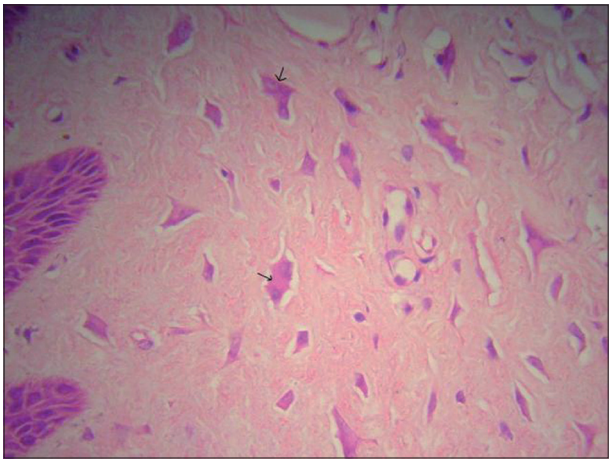

Figure 4: Multinucleated cells in the dermis (H and E, ×400)

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Answer – Giant cell fibroma (GCF)

DISCUSSION

GCF is a benign oral mucosal tumor of fibroblastic origin. It was first described by Weathers and Callihan in 1974.[1] It usually occurs in the first three decades of life, with no sex preponderance. However, some authors have noted its predominance in females.[2,3] Gingival mucosa is the most common site. However, it can also be seen on the tongue, palate or buccal mucosa.[2] On the gingival mucosa, it commonly occurs on the mandibular gingiva than on the maxillary gingiva.[3] GCF clinically presents as an asymptomatic mucosal colored papule or nodule of size around a few millimeters to 1 cm in diameter. The lesion may be pedunculated or sessile and commonly simulates a papilloma.[4]

Some authors believe it to be the oral equivalent of fibrous papule that occurs over the nose or face, and GCF occurring over the nose has been described.

Histopathologicaly, GCF has a hyperplastic epidermis and dense fibrous connective tissue in the dermis. The dermal features are most characteristic and show large stellate-shaped mononuclear cells and multinucleated giant cells.[5] The multinucleated cells may be distributed all over in the dermis, but they are more conspicuous in part of the dermis just below the hyperplastic epidermis. These cells have oval nuclei with abundant eosinophilic cytoplasm. The origin of stellate and multinucleate cells of GCF is not clear, but some studies have shown a positive immunohistochemical staining only for vimentin, suggesting their origin from the fibroblasts.[6,7] The existence of GCF as a separate clinical and histopathological entity was debated by some authors, and they considered it to be a histologic variant of focal fibrous hyperplasia or irritation fibroma. However, currently, most of the authors and textbooks of oral pathology consider GCF as a distinct entity.

Clinically, GCF may resemble many other neoplasms occurring over the tongue, gingiva or buccal mucosa. A pyogenic granuloma is commonly found on the gingiva and lips. It appears as a reddish vascular nodule that bleeds easily on slight trauma and, microscopically, shows proliferation of capillaries. Papillomas are caused due to human papilloma virus infection. They have a lobulated or papillary surface and, on histopathology, show epidermal proliferation along with papillomatosis and koilocytes. Irritation fibroma occurs on the buccal mucosa along the line of occlusion. It has a normal mucosal color but may appear reddish if traumatized or may appear whitish due to hyperkeratinization and constant irritation. It contains hypocellular dense collagenous stroma with plump nucleated fibroblasts and fibrocytes having elongated, thin nuclei with minimal cytoplasm.[8] The surface epidermis in irritation fibroma is usually atrophic in contrast to GCF, which is hyperplastic. Peripheral giant cell granuloma, also known as giant cell epulis, exclusively occurs on the gingiva or on the alveolar ridge. It originates from the periodontal ligament and contains fibroblasts and osteoclast-like giant cells.[9] Mucosal neuromas are rare in occurrence. It can occur as a solitary lesion without any other association or may be a component of multiple endocrine neoplasia type 2b. In the oral cavity, it presents as soft yellowish-white or mucosal colored, sessile, painless nodules on the lips, tongue and buccal mucosa. Extensive involvement of the lips may occur producing an enlargement, giving a "blubbery lip" appearance. The affected individuals have a Marfanoid body appearance with a narrow face.[10] Neuromas have distinctive microscopic features that show proliferation of the neural cell.

GCF does not regress spontaneously and surgical excision of the lesion is sufficient. The chances of recurrence of the GCF are rare.

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