

DIAGNOSTIC AND THERAPEUTIC PROTOCOL WITH HISTOPATHOLOGIC ANALYSIS OF GINGIVAL EPULIS: REPORT OF TWO CASES

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ABSTRACT

Epulis is benign on the gingiva whose external appearance resembles a tumor, while histological it looks more like a transitional form of an inflammatory process.

Epulis occurs twice as often in women than in men, and slightly more frequently and conformity of clinical and histo-pathological diagnoses is 48%.

Histological examination of epulides indicates that the vast majority are the fibrous hyperplasias, peripheral ossifying fibromas, epulis gigantocellularis, epulis granulomatosa, epulis fissuratum, epulis gravidarum, epulis haemangiomas.

This paper presents clinical and histological features of 2 cases of epulis and their treatment, with histopathological analysis.

Key words: epulis, therapeutic procedure, histopathological analysis

Introduction

Epulis is a benign enlargement (*alteratio*) on the gingiva that looks like a tumor, and its histopathological analysis indicates transitional forms of inflammation.

There are three existing theories in the etiology of epulis.

The first is that epulis occurs as an inflammatory response to local stimuli (unadjusted prosthetic, improper fillings, residual roots, poor oral hygiene and various other trauma). Cells of the mucoperiosteum respond to such stimuli by forming a specific granulation tissue.

Second theory suggests a benign neoplasm.

A third theory holds that hormonal imbalance related to pregnancy or hyperparathyroidism act as the cause of epulis [1].

Epulides occur more often in women than in men, and the congruence of clinical and histopathological findings amounted to 48%. Most commonly, it is a reactive hyperplasia of the connective tissue of the gingiva or the periodontal ligament.

According to histological analysis and etiology, epulides are classified as: Epulis gigantocellularis, epulis fibromatosa, epulis congenita, epulis gravidarum, epulis granulomatosa, epulis fissuratum, epulis hemangiomatosa [2].

It is difficult to clinically distinguish epulis from malignant tumors or any other lesion on the gingiva, and a histopathological analysis is essential for diagnosis.

The aim of this paper is to present clinical and histological features of 2 cases of epulis and their treatment, with histopathological analysis.

Case report 1

A 33-year-old female patient contacted Department of Oral Medicine and Periodontology due to gingival overgrowth in the right maxillary area, between the lateral incisor and canine (**Figure 1**). The patient had fixed prosthetics in the form of dental crowns, put in place two years ago. Oral hygiene was satisfactory.

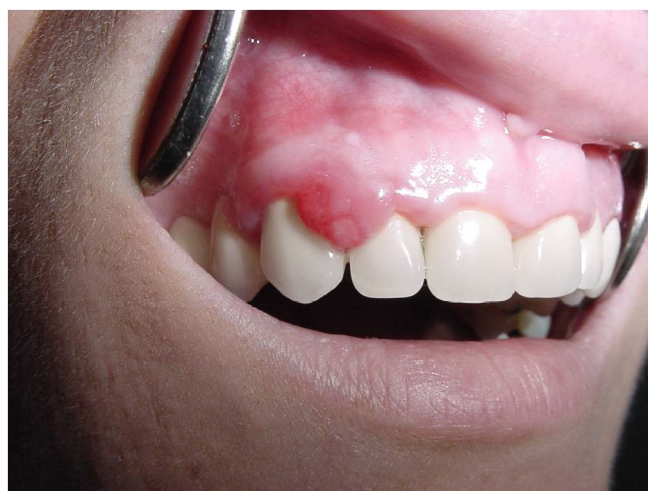


Figure 1.
Gingival epulis in the area of 12-13

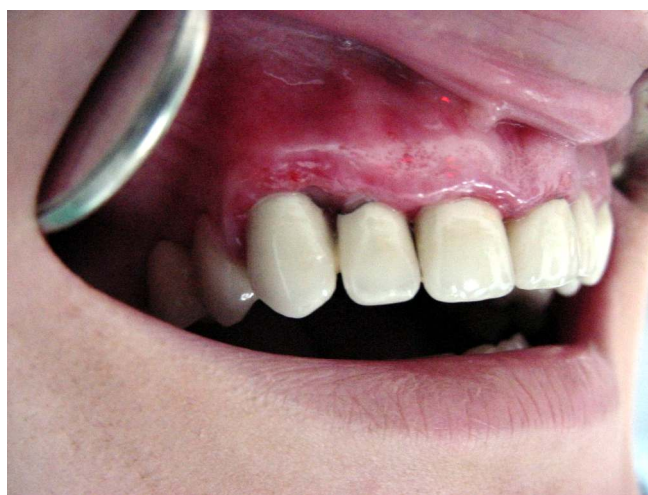


Figure 2.
Post-gingivectomy

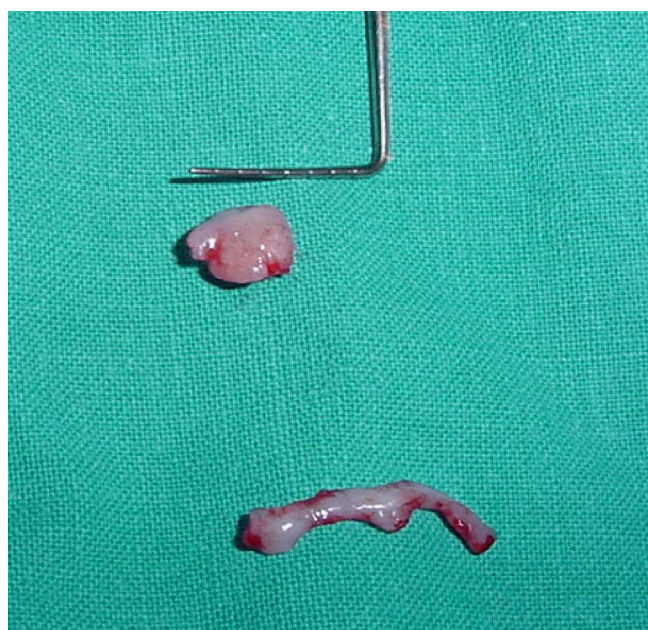


Figure 3.
Excision of the enlarged tissue

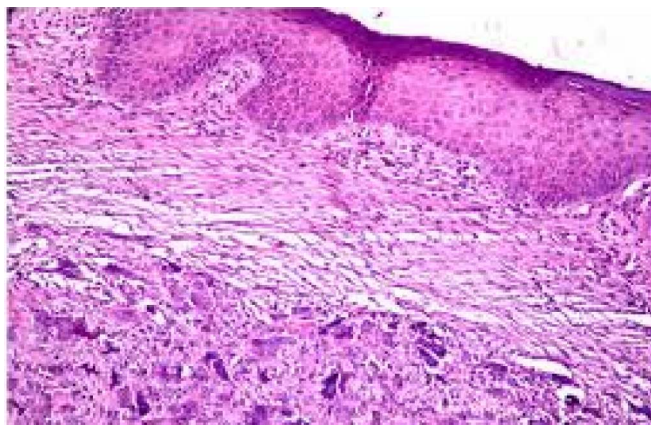


Figure 4.
Histopathologic image



Figure 5.
Gingival epulis in the area of 41-42

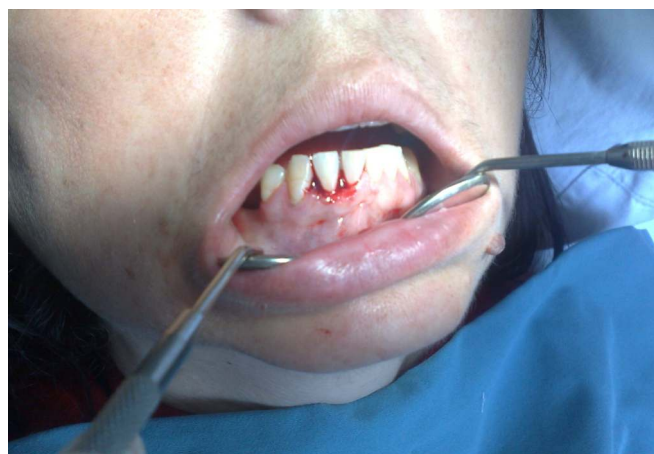


Figure 6.
Post-gingivectomy

Other parts of the gingiva and periodontium showed no pathological changes. Gingival overgrowth was painless. It bled when provoked (during brushing and eating).

The patient was systemically healthy and had no hormonal imbalances.

Following the clinical examination, analysis of X-rays and laboratory findings, the following therapeutic procedure was recommended: gingivectomy and histopathological analysis of the excised hyperplastic gingiva (**Figure 2** and **Figure 3**).

Histopathological findings:

Macroscopic findings – The sample was 8x5 mm in diameter. Clinically, it was a hyperplastic modified inter-dental papilla. Two cuts of the sample were embedded in the paraffin block.

Description – Microscopically, on the surface of the biopsied sample we noted a thickened and multi-layer squamous epithelium with elongated epithelial bars, acantosis and parakeratosis. Sub-epithelial showed the abundance of plasma cells that formed confluent nodes. Immunophenotype plasma cells were CD 38+, CD 138(+/-), Kappa (+) (Figure 4).

Histopathological diagnosis - Plasma cell granuloma.

At the control examination after one month, the gingiva showed no pathological changes.

Case report 2

A 45-year-old female patient contacted Department of Oral Medicine and Periodontology for planning of fixed prosthetics (bridges) in the area of teeth 44 and 47, as per the referral by a specialist prosthetic.

Clinical examination showed gingival overgrowth in the area of teeth 41 and 42, with surface erosion (**Figure 5**). The patient had no subjective complaints (pain or bleeding), and did not view the overgrowth as a significant problem. The patient was systemically healthy and had no hormonal imbalances.

The analysis of panoramic radio-graphs showed chronic periodontitis with horizontal resorption of alveolar bone.

Following the clinical examination, analysis of X-rays and laboratory findings, the following therapeutic procedure was recommended: gingivectomy and histopathological analysis of the excised hyperplastic gingiva (**Figure 6**).

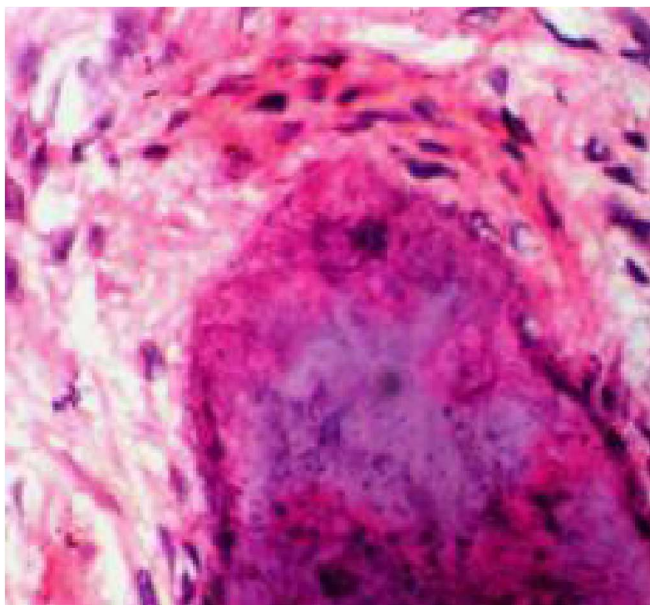


Figure 7.
Histopathologic image

Histopathological findings:

Sample 10x5x3mm, microscopic polypoid hyperplasia of the fibrovascular connective tissue, which is imbued with micro-cellular inflammatory infiltrate, and covered with a thickened squamous epithelium showing signs of parakeratosis. It was an inflammatory fibrous hyperplasia which was removed *in toto* (**Figure7**).

At the control examination after three weeks, the gingiva showed no pathological changes. Continuation of periodontal therapy is planned prior to prosthetic work.

Discussion

An epulis is a localized gingival growth, typically starting in the inter-dental papillae. The lesions which contain relatively little vascularity are focal fibrous hyperplasia and peripheral ossifying fibroma which are pink, smooth surfaced elevations that are usually asymptomatic. Those lesions which contain numerous vascular spaces (pyogenic granuloma and peripheral giant cell granuloma) are usually red smooth surfaced elevations and the degree of trauma to which they are subjected is often sufficient to cause focal ulceration and pain [3].

Histological examinations of epulides indicate that they usually appear as fibrous hyperplasia, peripheral ossifying fibroma, pyogenic granuloma, and peripheral giant cell granuloma.

Choudhari et al. presented two cases with benign gingival overgrowth. Histopathological analysis revealed that one case was fibrous hyperplasia, and the second case was peripheral giant cell granuloma. In both cases, the patients were female, systemically healthy and had no hormonal imbalances [4].

According to Shah et al, giant cell lesions of the oral cavity demonstrate variable clinical behavior and histopathologic features. Peripheral giant cell fibromas occur only on the gingiva or alveolar mucosa and are more common in women than in men. It can occur at any age, but are most common in children and young adults. The lesions are vascular and red or purple in color [5]. A number of reports indicate that minor trauma often precedes the development of the lesions. Careful diagnosis of this benign tumor is important to avoid unnecessary aggressive therapy. Conservative surgical treatments provide an excellent prognosis.

Conclusion

Although the etiology was not exactly determined, unfavorable oral hygiene and hormonal changes seemed to be predisposing factors in both cases. Since the etiology to cause epulis are multifactorial, it is not easy to determine the exact cause favoring development of lesion. Epulis is clinically difficult to distinguish from malignant tumors, or any other lesions on the gums, so diagnosis requires histopathological analysis.

In conclusion, for treating such type of lesion, a complete surgical excision along with its base and elimination of irritating factors seems satisfactory to prevent further recurrence.

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