

# Reactive Hyperplastic Lesion of Endodontic Origin Mimicking Pregnancy Tumor: A Case Report

## Case Report

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## **Abstract**

### **Introduction:**

Gingiva is a common region of inflammatory and reactive lesions. Systemic conditions, including hormonal imbalance in pregnant women, may cause exaggerated response to irritations such as calculus or infection. Therefore, more accurate assessment is necessary to achieve the best decision making in the differential diagnosis and treatment of these patients. In this paper, we present a reactive hyperplastic lesion of endodontic origin (parulis) on the gingiva in a pregnant woman, which mimicking pregnancy tumor.

### **Key words:**

•Gingival Hyperplasia •Pyogenic Granuloma •Pulpitis

## Case Report

A 20-year-old pregnant woman was referred to the Department of Periodontics, Faculty of Dentistry, Shahid Sadoughi University of Medical Sciences, with a diagnosis of pregnancy tumor. She was in the sixth month of pregnancy and mentioned this lesion two months before. She had no other medical or dental history.

Her chief complaint was gingival bleeding during mastication. Intra-oral examination showed an exophytic reddish pink growth on the gingiva between the first and the second right mandibular molars (Figure 1). The lesion did not extend lingually. In periodontal examinations, there was no periodontal pocket around these teeth. The mandibular molars teeth did not have any mobility, pathologic tooth migration, or pathologic gingival recession.

A more accurate assessment showed that the lesion was pedunculated and originated from the mid-buccal of the first molar. The first molar had excessive carious lesions. Vitality test showed that the first molar was non-vital. Because there was no sinus tract, tracing was impossible. Peri-apical radiography was obtained, using lead apron, and revealed a radiolucency around the mesial and distal root, and in the furcation area, of the first molar (Figure 2). Therefore, the first differential diagnosis considered parulis (gumboil) and then pregnancy tumor. The patient was referred for endodontic treatment. After endodontic treatment, the lesion became smaller. The patient was followed-up after childbirth.

The lesion disappeared completely after one month without any periodontal or surgical intervention (Figure 3), and was filled with amalgam restoration.



**Figure 1.** Clinical feature of the gingival lesion



**Figure 2.** Periapical radiography revealed a radiolucency around the mesial and distal root and in the furcation area of first molar



**Figure 3.** After parturition, the lesion completely disappeared

## Discussion

The gingiva is commonly affected by non-neoplastic and neoplastic lesions. A great majority of gingival overgrowths are non-neoplastic lesions. They are either inflammatory or represent a reaction to diverse types of irritant stimuli.<sup>(1)</sup> Irritations such as calculus, cervical caries, trauma from occlusion, and smoking, are all found to be associated with the development of reactive gingival growths.<sup>(2,3)</sup> Infection alone without irritation may produce sufficient irritation to activate the growth on the gingiva.<sup>(4)</sup>

Systemic conditions may be a contributing factor, such as pregnancy, which causes a tendency of the occurrence or rapid growth of these lesions.<sup>(3,4)</sup>

Reactive lesions usually present on the gingiva as a singular, sessile nodule. Sizes of lesions may be various and they are almost asymptomatic unless secondarily traumatized.<sup>(5)</sup> They often present as clinically diagnostic challenges

because they mimic various groups of pathologic processes. They are clinically similar but possess distinct histopathological features.<sup>(2)</sup>

When a lesion is found on the gingiva, differential diagnosis and the true origin of the lesion are important steps, since these could help to correct treatment.<sup>(6)</sup>

The most common inflammatory pathologic conditions in dentistry are dental abscesses. Dental abscesses are usually associated with non-vital teeth. Clinically, they may be symptomatic or asymptomatic and they commonly produce pus. Based on their way of spreading, dental abscesses may lead to osteomyelitis, cellulitis, or a parulis/fistulous tract.<sup>(5)</sup>

The differential diagnoses of parulis include pyogenic granuloma, pregnancy tumor, peripheral giant cell granuloma, post-extraction granuloma, and some other lesions.<sup>(7)</sup> Differential diagnosis for the present case was parulis, pregnancy tumor. Parulis is caused by periapical infection, and the treatment of choice is endodontic treatment of the suspected tooth.<sup>(8)</sup> In the present case, the existence of a non-vital tooth without any clinical signs of gingival inflammation and the lesion being pedunculated from the furcation area led to the decision that the lesion had an endodontic origin and parulis was the first differential diagnosis.

Pyogenic granuloma is a type of inflammatory hyperplasia and one of the most common oral reactive lesions. This lesion has a tendency to occur on the interdental papilla.<sup>(5,6)</sup> Pregnancy tumor is a gingival pyogenic granuloma, which develops in up to 5% of pregnancies and resolves spontaneously after parturition. Generally it appears in the second and third month of pregnancy. It has a tendency to bleeding and interfering with mastication.<sup>(5,9,10)</sup> In the study, Tabatabaei Nejad et al. reported that the frequency of pregnancy tumors in Tehran Medical Center, Iran in 2013 was 0.22%, and they concluded the prevalence of this lesion in pregnant women was lower than in previous studies.<sup>(11)</sup>

Female sex steroid hormones have been shown to directly and indirectly exert an influence on cellular proliferation, differentiation and growth in target tissues, including keratinocytes and fibroblasts in the gingiva.<sup>(6)</sup> In addition, hormonal imbalance during pregnancy heightens the organism's response to irritation. Therefore, the clinical sign of disease may be exaggerated in pregnant women.<sup>(1)</sup>

In conclusion, attention to the clinical and radiographic signs and symptoms and differential diagnosis are important for the management of the best treatment plan of a patient. It is more important in pregnant women because of the alteration in their systemic situation.

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