

Management of Peripheral Ossifying Fibroma in Pregnancy with Negative CRP: A Case Report

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Abstract: *Since the late 1940s, ossifying fibromas are regularly documented in the literature. Often a gingival fibroma, peripheral ossifying fibroma exhibits areas of the ossification. It is a non - cancerous gingival enlargement. According to clinical and histological similarities, certain POFs are hypothesised to first develop as a pyogenic granuloma that goes through fibrous maturation and eventually calcifies. It has been suggested that POF, as opposed to an irritating fibroma or a growing type pyogenic granuloma, is a unique clinical entity. In this case study, a pregnant woman who was 22 years old and had a negative c - reactive protein test appeared with a gingival growth in the upper left front area of her mouth.*

Keywords: peripheral ossifying fibroma, pregnancy induced fibroma, gingival fibroma, ossifying fibroma, reactive lesion, c - reactive protein, pregnancy tumor.

1. Introduction

The gingiva can develop a variety of localised reactive lesions, such as peripheral ossifying fibroma (POF), pyogenic granuloma, and pyogenic granuloma [1 - 3]. Peripheral cementifying fibroma, peripheral fibroma, and calcifying fibroid epulis with calcification are all terms used to describe POF. These lesions may develop in response to irritants including trauma, bacteria, plaque, calculus, flawed restorations, and dental devices [2, 3]. It makes up around 9% of the total gingival enlargements and is frequently observed as a gingival overgrowth on the interdental papilla [1].

The Shepherd initially described POF as alveolar exostosis in 1844. [4] The word peripheral ossifying fibroma was later created by Eversol and Robin in the year 1972. [4] It mostly affects women and develops in the younger ages range. The majority of them develop in the incisor - cuspid area, with the maxillary arch being its preferred location. It appears as a 3 cm or smaller, painless lump on the gingiva or alveolar mucosa. It might be sessile or pedunculated. A clinical examination and biopsy can be used to determine the diagnosis [5]. Early lesions have an uneven, red appearance, whereas mature lesions have a smooth, pink surface. Possible surface ulceration. [6]POF's status as either a tumour or a reactive growth has not been established. The behaviour of POF is clinically benign [7]. Recurrence rates have been estimated at 16–20% [8]. The intricacy of POF's location, which is typically found in interdental locations, makes it difficult to reach during surgical manipulation and result in partial removal of the lesion, failure to remove local irritants, and recurrence. For recurrences, deep excisions were preferable [8].

In different phases of the female reproduction, notably during pregnancy, hormonal changes are seen. Numerous manifestations of these alterations can be seen in the oral

cavity, including increased gingival inflammation, bleeding, an increase in gingival crevicular fluid, and enlarged gingiva. [9] These have been linked to the role of progesterone and oestrogen in the pregnant body's altered gingival vasculature. Both localised and generalised gingival enlargements are possible. Pregnancy tumours, also known as granulomas gravidarum, are the most often observed. Up to 5% of pregnancies have it, according to research. [10] In addition to this, enlargements such pyogenic granulomas, peripheral giant cell granulomas, and peripheral ossifying fibromas are more common in pregnant women. [11] These are frequently mistaken for pregnancy tumours.

We are presenting a similar case of the peripheral ossifying fibroma developed at the maxillary anterior region, in a young female patient occurred at the time of her pregnancy. Also we tried to find out the correlation between this pathology with the c - reactive protein.

2. Case Report

A young woman aged 22 yrs reported to the Department of Oral & Maxillofacial Surgery, Maharana Pratap College of Dentistry & Research Centre, Gwalior, with the chief complaint of gingival overgrowth on the palatal side of maxillary anterior region. She gave the history of recent delivery and under post - partum phase. The lesion first appeared at 2nd month of pregnancy and consistently increasing the size. The woman was in the first trimester when the overgrowth started. Since there were no symptoms, the patient decided not to visit hospital. The patient didn't start to worry about the growth until the third trimester of her pregnancy. She visited our department after the delivery.

On examination the overgrowth was found to be pedunculated, firm and non - tender. It was reddish pink in colour present on the palatal side of the maxillary arch originated from the interdental papilla between the left

canine and 1st premolar. [Figure 1] Patient also gave history of bleeding on percussion or brushing. The patient was systemically healthy. After proper hematological examinations, like hemoglobin, blood cells count, bleeding time and clotting time. C reactive protein was also analyzed, which was found to be negative. Excisional biopsy was planned under local anesthesia. [Figure 2] The lesion was carefully excised from the bone underneath with the aid of no.12 blade. Gauze pieces were used to control bleeding. To protect the surgical site, a periodontal pack was applied; it was removed a week later. Three days of antibiotics and analgesics were administered to the patient. The tumour that was removed, preserved in 10% formalin, and delivered to the Oral Pathology section for regular histological analysis. [Figure 3]



Figure 1: Location of Peripheral ossifying fibroma on intraoral examination



Figure 2: Immediate post operative image after excision

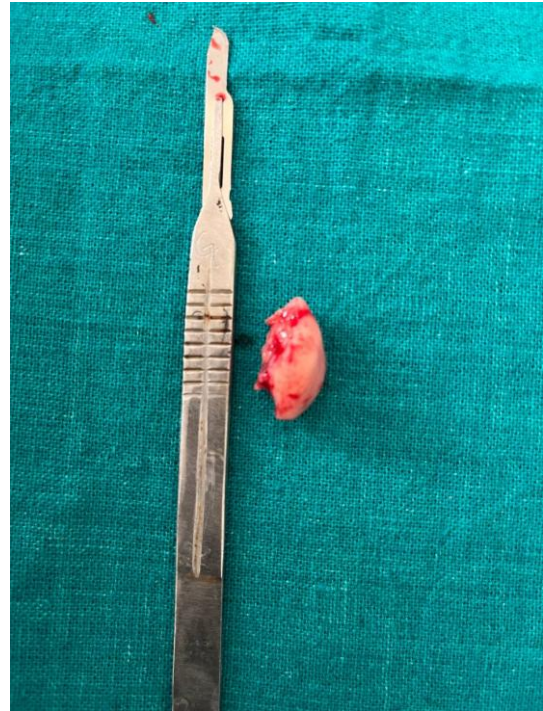


Figure 3: Excised Mass

The connective tissue stroma was covered by a stratified squamous epithelium that was parakeratinized, according to the specimen's histology. Some areas of the epithelium exhibited hyperplasia. The stroma of connective tissue was made up of a dense mass of proliferating fibroblasts mixed with fibrillar tissue. Additionally, there were some dystrophic calcifications and both large and small bone trabeculae in the fibrous connective tissue. Peripheral ossifying fibroma was the final diagnosis based on history, clinical presentation, radiographic examination, and histological examination.

3. Discussion

The two forms of peripheral ossifying fibromas—central and peripheral—occur predominantly in the bones of the skull and face. The peripheral kind of ossifying fibroma develops on the soft tissues underlying the alveolar process, whereas the central type develops on the endosteum or periodontal ligament (PDL) next to the root apex and grows from the bone's medullary cavity [12]. Peripheral ossifying fibroma is a single, sessile or pedunculated, slow - growing nodular tumour. It is often seen arising within the gingival papilla connecting neighbouring teeth [13].

Although the cause of peripheral ossifying fibroma is unknown, it has been hypothesised that periodontal ligament cells may be its source. It is necessary to distinguish peripheral ossifying fibroma from peripheral traumatic fibroma, peripheral giant cell granuloma pyogenic, and peripheral odontogenic fibroma. Peripheral odontogenic fibroma is a uncommon overgrowth, hypothesized to be developed from epithelial cell rests in the periodontal ligament or attached gingiva. Buccal mucosal fibromas develop at the biting line. Pyogenic granuloma manifests as a tiny, soft, bleeding lump with a tendency to bleed and may or may not rarely or never show calcifications, however tooth displacement and alveolar bone resorption are not

seen. Clinically, POF and peripheral giant cell granuloma are similar, but POF lacks the purple or blue coloring that is frequently seen in peripheral giant cell granuloma and exhibits specks of calcification on radiographs [14].

A foreign substance in the gingival sulcus, subgingival calculus, gingival damage, or irritation can all cause excessive growth of mature fibrous connective tissue. It is also known to form in reaction to local irritants on the teeth it is connected with; microscopic examination reveals a hyperplastic cellular fibre stroma supporting bone, cementum, or dystrophic calcification deposits. [15]The presence of hormones in the emergence of these has been proposed in the literature since peripheral ossifying fibroma has an evident predilection for females and occurs often in particular life stages, such as puberty and pregnancy. Therefore, hormonal influences may contribute to the incidence rising in the 2nd decade and descending after the third. [16]

Histopathological analysis of biopsy tissues yields the conclusive diagnosis of peripheral ossifying fibroma. Intact ulcerated stratified squamous epithelium, mineralized mature lamellar or woven osteoid, profuse endothelial proliferation, fibrous connective tissue with variable numbers of fibroblasts, cementum - like or dystrophic calcifications, and infiltration of inflammatory cells in the lesion were the features seen during microscopic examination. [15]Recurrence rates are typically between 16 and 20 percent. The failure to completely remove the lesion, the presence of local factors such plaque and calculus, and surgical errors during surgery are potential causes of recurrence. [17]

4. Conclusion

By dentists, medical professionals, and patients alike, oral health care is frequently avoided and misunderstood, particularly during pregnancy. Any pregnant patient should have an oral risk assessment, get advice on good oral hygiene, and be referred for dental care as needed. The current case of the peripheral ossifying fibroma in a pregnant woman supports one of the numerous hypotheses explaining its pathogenesis, which postulates that pregnant woman might be at higher risk of developing peripheral ossifying fibroma.

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