

# Bygone and Underemphasized Reactive Pathologies: Case Reports of Gingival Pyogenic Granuloma

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## Abstract

**Introduction:** Gingival overgrowth is a typical clinical manifestation of reactive lesions, which can develop from either known or unknown triggers. There is a dearth of new literature on these reactive conditions, despite the fact that they exert significant influence on the patient's aesthetics, psychology, and oral function. As a result, this report presents three cases of reactive gingival overgrowths.

**Case Presentation:** The three cases of gingival overgrowth that are reported included two females and one male with ages 42 years, 19 years, and 39 years respectively. Traumatic 11mm x 7mm gingival overgrowth was observed in Case 1. Trauma-induced sessile gingival overgrowth was 10mm x 8mm in Case 2. Case-3 had 12mm x 9mm pedunculated gingival overgrowth. None of the overgrowths showed any radiographic bone loss or clinical attachment loss. In each of the three cases, the dental hygiene was excellent.

**Conclusion:** Taking into account and comparing the clinical characteristics of these overgrowths with the existing literature, they are identified as reactive pyogenic granuloma. The reported cases shed light on diagnostic steps for this pathology and serve as a reminder for upcoming dental clinicians and researchers.

**Keywords:** gingival overgrowth, pyogenic granuloma, reactive lesions, pathology.

Oral and Maxillofacial Pathology Journal (2023): <https://www.ompj.org/archives>

## Introduction

The gingiva is an integral component of the robust defense mechanism that the periodontium employs to proactively respond to any potential dangers that may be posed to it. Gingival overgrowth is one of the gingival diseases that can develop as a result of the struggle between the gingiva and the different dangers that it faces. Gingival overgrowths can be caused by a wide variety of factors, including the use of certain drugs, the presence of a systemic condition, the impact of hormones, or the presence of an infectious microorganism.<sup>1</sup> These enlargements can be broken down into three categories: those that are caused by plaque, those that are related to systemic causes and diseases, and reactive enlargements. All the enlargements may have different clinical characteristics, including the following: localized or widespread; pale red to bright red in color; asymptomatic to sometimes excruciatingly painful; lobulated or ulcerated; typically benign; vascular or fibrotic; sessile or pedunculated; propensity to hemorrhage readily etc.<sup>2</sup>

The growths that develop as a response to external and/or internal stimuli are referred to as reactive lesions. These lesions are distinguished by the proliferation of connective tissue components of the gingiva, which ultimately results in hyperplasia.<sup>3</sup> It is more typical for reactive lesions to develop as a response to low-grade irritation; nevertheless, they can also develop as a reaction to high-grade harmful impact.<sup>4,5</sup> The psychological impact of supposing that the gingival growths

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**How to cite this article:** Ahmed MM Bygone and underdiagnosed reactive pathologies: Case reports of gingival pyogenic granuloma. Oral and Maxillofac Pathol J 2023; 14(2): page no:238-240

**Source of Support:** Nil

**Conflict of Interest:** None

**Ethical Declaration:** The author acknowledges that voluntary and informed consent has been acquired from patients for the utilization of clinical information and images for academic teaching and scientific publishing, while maintaining the anonymity of the patients.

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are more hazardous and malignant than they actually are, in addition to the patient's concerns about the appearance and function of the affected teeth, is a significant issue for patients who have them.

Despite the importance of gingival hyperplastic growths, there is a dearth of new research and studies on the topic.

As a result, the purpose of this study is to document the three cases of reactive gingival hyperplasia.

## Case Reports

### CASE - 1

A 33-year-old woman who attended with a complaint of swelling in her maxillary anterior teeth was evaluated. The history of the patient's current condition indicated that the patient had recently fallen and had a minor injury to the maxillary anterior teeth, which was not considered to be very significant. In addition, the patient's history indicated that she does not suffer from any illness and is presently not on any medication. The patient had a small growth a month before that became gradually larger after the injury. The growth was harmless but often bled when it was touched or chewed on. On comprehensive examination, a well-circumscribed gingival overgrowth was seen in respect to tooth 21. The growth had a light pink color with few spots of erythema and measured around 11mm x 7mm. It was attached by peduncle, and had lobulated texture, firm consistency, and smooth edges. The involved tooth did not show the existence of any periodontal pockets or clinical attachment loss. The tooth was found to have grade I mobility and there was no evidence of suppuration. Upon tactile examination, slight bleeding and no tenderness on palpation were noted. The patient had a good oral hygiene index-simplified score of 0.9, and there was no indication of any abnormalities or bone loss on the radiographs. The patient did not exhibit any evidence of systemic inflammation, and all the patient's vital signs remained stable (Figure 1).

### CASE - 2

A 21 year old female patient reported growth in the vicinity of her lower front teeth for one month. The patient reported injuring her gingiva while brushing her teeth, which was then followed by the beginning of a growth that gradually grew to the present size. According to the results of the general examination, the patient was medically stable and does not suffer from any illness and is presently not on any medication.

The patient had never been married and was not currently taking any drugs or suffering from any other ailments. During the clinical examination, a sessile gingival overgrowth measuring 10mm x 8mm was seen between 31 and 32. It had well-defined rounded borders and a gingival-like light pink tint, which was comparable to the color of the gingiva. On tactile examination, it was quite soft and readily bled. Both clinical and radiographic examinations of the affected teeth showed no evidence of attachment loss or bone resorption. The overall OHI-S score was 0.6, which is regarded to be good (Figure 2).

### CASE - 3

A 29 years old male patient reported with a gingival enlargement that had been present for two months and had gradually grown in size since then was the source of the patient's complaint. The medical condition of the patient was steady, and the patient's medical history did not include any traumatic events, medication treatments, or illnesses. The interdental papilla between teeth 12 and 13 was the point of origin of the gingival overgrowth, which exhibited lobulated surface texture with the peduncle. It was around 12 mm x 9 mm in size and pale pink color with spots of erythema on its surface. It was firm, and bled when touched. The involved teeth did not show any evidence of clinical attachment loss or radiographic bone loss, and the OHI-S score was 0.5, which is regarded to be in a good range (Figure 3).

Table 1 presents an overview comparison of the gingival overgrowths seen in the three cases that have been described:

## Discussion

Gingival overgrowth is a reasonably frequent gingival disorder that could be brought on by a variety of factors. Even though they are relatively frequent, they have a bigger influence on functionality, aesthetics, and mental health. Three different clinical cases of gingival overgrowth are described. Pyogenic granuloma, peripheral fibroma, peripheral giant cell granuloma, peripheral ossifying fibroma, and spongiotic

**Table 1:** The comparison of the gingival overgrowths

	AGE	GENDER	CAUSE	SIZE	ATTACHMENT	ORAL HYGIENE
Case-1	42 years	Female	Trauma	11mm x 7mm	Peduncle	Good
Case-2	19 years	Female	Trauma	10mm x 8mm.	Sessile	Good
Case-3	39 years	Male	Unknown	12 mm x 9 mm	Peduncle	Good



**Fig. 1:** Swelling on maxillary anterior teeth



**Fig. 2:** Swelling on mandibular anterior area



**Fig. 3:** Swelling between 12 and 13

gingival hyperplasia are some of the differential diagnoses that might apply to the cases that are discussed in this paper.<sup>6,7</sup>

In cases 1 and 2, the existence of a history of trauma in the absence of additional etiological variables such as infection, medicines, illnesses, and so on is indicative of a reactive lesion, the pyogenic granuloma (PG). In case 3, the etiological variables that might be the cause of pyogenic granuloma remain unknown. This is another possible explanation for why the condition occurred. According to the findings of Alwan et al; pyogenic granulomas are more frequently linked with traumatically caused injuries. Nevertheless, PG may exhibit unusual characteristics in different clinical situations with idiopathic etiological reasons.<sup>8,9</sup> The ages of all three of the cases discussed in this report are <35 years old, placing them in the category of young adults. This finding is consistent with the finding of Zain et al., who found that the median age for PG is in the thirties, with a peak in the twenties.<sup>10</sup> In all but one of the three cases, women are more likely to be diagnosed with PG, lending credence to the findings of studies showing a higher frequency of the disease in women.<sup>11-13</sup> The gingiva, which is a common site of involvement by the PG, was affected by the overgrowth that was found in all three of the cases that are reported.<sup>13,14</sup> In agreement with the report by Alwan et al, the labial part of the gingiva was involved in all three cases of gingival overgrowths reported in this paper. Cases 1 and 2 showed the overgrowths to have a fibrous consistency, which is suggestive of PG according to the findings of Madhura. PGs are typically vascular and soft, but over time they become fibrous, which can often cause a misdiagnosis as fibromas.<sup>15,16</sup> This is also shown in the cases presented in this paper where all the overgrowths ranged from 0.7 to 1.2 cm, which is consistent with the findings of the report by Nirmala et al., which stated that PG rarely reaches 2.5 cm.<sup>17</sup>

All the clinical signs that were documented for the three cases are suggestive of PG, which is thought to have developed because of trauma and other unknown reasons. Even though clinical characteristics are the most important factor in making a diagnosis of PG, the fact that there is no histological analysis available for these reported cases constitutes a minor limitation.

## Conclusion

The cases detailed in this report pave the path for proper diagnosis of reactive gingival lesions like pyogenic granuloma. Despite its importance, pyogenic granuloma has been largely overlooked in recent years, leading to a dearth of published research. As a result, these reported cases shed light on this pathology and serve as a reminder for upcoming researchers and clinicians.

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