

## Short communication

# Oral pyogenic granuloma: A review of 137 cases

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Accepted 9 January 2009

Available online 8 February 2009

## Abstract

We retrospectively reviewed 137 cases of histologically confirmed pyogenic granuloma of the oral cavity from the records of the Department of Oral Surgery, Bharat Heavy Electricals Hospital, Trichy, India between 1996 and 2006. The most commonly affected site was the gingiva ( $n = 114$ , 83%). Mean age of patients was 31 years (range 6–85, male to female ratio 1:2.6).

Simple excision is enough to prevent recurrence, but the aetiology and pathogenesis of the lesion must be known to understand its nature. © 2009 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

*Keywords:* Pyogenic granuloma; Tumors; Gingiva

## Introduction

Pyogenic granuloma is a non-neoplastic inflammatory hyperplasia that responds to various stimuli such as chronic local irritation, trauma, hormonal changes, bone marrow transplant, and reactions to grafts.<sup>1,2</sup>

It presents as a localised, pedunculated or sessile, polypoid mass, or an ulcerative, painless growth of skin or mucous membrane.<sup>1,3</sup> The most common intraoral site is the gingiva (nearly 75%), but it also affects the lips, mucosa, and tongue.<sup>1,3,4</sup>

## Patients and methods

We retrospectively reviewed 137 cases of pyogenic granuloma from medical and histological reports of patients with tumours and tumour-like lesions that involved the oral cavity between 1996 and 2006 from the Department of Oral Surgery, Bharat Heavy Electricals Hospital, an industrial hospital that provides medical services to its employees (predominantly a male workforce) and their families, comprising a population of 50 000.

Age, sex, site, predisposing factors, and recurrence were analysed.

## Results

Of the 655 tumour-like lesions of the oral cavity, 137 were confirmed histologically as pyogenic granuloma, an incidence of 21%. There were 114 gingival lesions (83%), of which 63 affected the maxillary gingiva (55%). The commonest site in both sexes was the maxillary anterior labial gingiva. There were 23 extragingival lesions (17%).

The mean age of incidence was 30.8 years in women (range 6–85), and 34.6 years in men (range 8–74), with a peak incidence in the third decade. Two thirds of patients were aged between 10 and 40 years. Calculus was the main predisposing factor. Eleven patients were pregnant, 2 were diabetic, and 3 had a history of extraction, cheek biting, and apicoectomy.

Four patients presented with extensive loss of bone and mobility of teeth of 1–2 years duration.

All lesions were excised under local anaesthesia and regular follow-ups were maintained.

As this is the only hospital for the employees and their families most attended follow-up (4 did not attend). Three patients had a recurrence (2%).

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## Discussion

The severity and intensity of gingivitis and periodontitis is closely related to socioeconomic and cultural conditions.<sup>4,5</sup> Better education, dental care and compliance with post-periodontal treatment seem to improve periodontal health.

We found a paucity of studies on pyogenic granuloma and wanted to analyse any change in its distribution and presentation over the years.

Our patients were predominantly female (77%), which may be because of the vascular effects of female hormones, but other authors report only a slight female predilection (55–58%).<sup>6,7</sup>

The commonest site was the gingiva (83%), which agreed with earlier reports (74–76%).<sup>8</sup> A predilection for the maxillary gingiva was similar to that of Ibadan,<sup>7</sup> but an earlier study showed a predilection for the mandibular gingiva.<sup>3</sup>

The maxillary labial gingiva was affected in 25 patients (22%), and the mandibular right buccal gingiva in 20 (18%). Studies by Angelopoulos<sup>6</sup> and Lawoyin et al.<sup>3</sup> reported the mandibular anterior gingiva as the most common site. The two most common extralingival sites were the tongue (4%), which agrees with other reports,<sup>3,8</sup> and the lower lip (3%).

Pregnant women accounted for 8% of all cases, and 11% of all female patients with oral pyogenic granuloma. In spite of good oral health care the prevalence was higher, which might be attributed to hormonal changes.<sup>9,10</sup>

Some studies have shown recurrence to be between 15% and 23%,<sup>8</sup> but we found it to be 3% after simple excision. Except for a higher prevalence in women and certain vari-

ations in site, our results correlated with previous reports. The uniformity of distribution of the lesion in different ethnic and geographical populations compared with other reports suggest the need for further studies based on cellular and subcellular levels to understand the true nature of the lesion.

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