

An Unusual Presentation of Oral Pyogenic Granuloma on the Tongue

Dr. Sandhyakrishna M (BDS)^{1*}, Dr. Deepak Daryani (MDS)²

¹Postgraduate in Oral Medicine and Radiology, Malabar Dental College and Research centre, Edapal, Kerela, India

²Head of the Department of Oral Medicine and Radiology, Malabar Dental College and Research centre, Edapal, Kerela, India

DOI: [10.36348/sjodr.2023.v08i05.002](https://doi.org/10.36348/sjodr.2023.v08i05.002)

| Received: 29.03.2023 | Accepted: 02.05.2023 | Published: 06.05.2023

*Corresponding author: Dr. Sandhyakrishna M (BDS)

Postgraduate in Oral Medicine and Radiology, Malabar Dental College and Research centre, Edapal, Kerela, India

Abstract

Pyogenic granuloma is a non-neoplastic reactive lesion that commonly occurs in gingiva. It is rarely found in extra gingival sites such as tongue, lip, palate and buccal mucosa. Lesions affecting the tongue are rarer and very few cases are reported. Unusual site of such lesions can be a diagnostic challenge. This case report describes an uncommon location of pyogenic granuloma occurring on the lateral border of tongue in a 60-year-old male patient.

Keywords: Pyogenic granuloma, Extra gingival, Tongue, Unusual site, Reactive lesion, Granuloma pyogenicum, Lobular capillary haemangioma.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Pyogenic granuloma (PG), also known as lobular capillary haemangioma or granuloma pyogenicum is one of the inflammatory hyperplasia seen in the oral cavity [1, 2]. This term is a misnomer because pus formation is not related to this lesion and histologically it is not a true granuloma [3]. Oral PG is a smooth or lobulated exophytic lesion presenting as small, red erythematous papules with pedunculated or sessile base, which is usually haemorrhagic. Most common in females. Gingiva is the most commonly affected site for Oral PG. In this article describes one unusually presentation of a large PG on extra gingival site.

Patient Details

A 60-year-old male patient reported to the department of oral medicine and radiology with a chief complaint of painless and slowly growing swelling on the left lateral border of the tongue for 1 month. It was sudden in onset, peanut in size initially, and gradually increasing in size, it was associated with slight difficulty in swallowing and speaking. Patient also gives a history of sharp broken tooth on the same side and he confess a history of trauma due to the same sharp broken tooth edge. Tooth was removed three weeks back. There was no history of similar swellings in other body parts. His medical and dental history was not significant.

Clinical Examination

On examination there was a single, pale to pinkish exophytic growth 2.5 cm diameter, arising from the left lateral border of anterior 2/3rd of the tongue with a pedunculated base (Figs. 1). It was soft to firm in consistency, non-tender with a smooth surface. There was no pus discharge and no bleeding on palpation. Tongue mobility was normal. Based on the history and the physical findings, Traumatic fibroma was considered as provisional diagnosis.



Fig. 1: Pyogenic granuloma on tongue.

Differential Diagnoses:

Hemangioma, papilloma and carcinoma on tongue were considered as the differential diagnoses.

Investigation

Excisional biopsy was performed under local anesthesia. The histopathological examination revealed that the lesion was covered by benign squamous

mucosal epithelium and made up of proliferation of blood vessels. Also noticed was fibroblast proliferation. The stroma was oedematous showing inflammatory infiltration by lymphocytes and plasma cells. The Squamous mucosal epithelium appeared ulcerated. This was consistent with the diagnosis of pyogenic granuloma (Fig. 2).

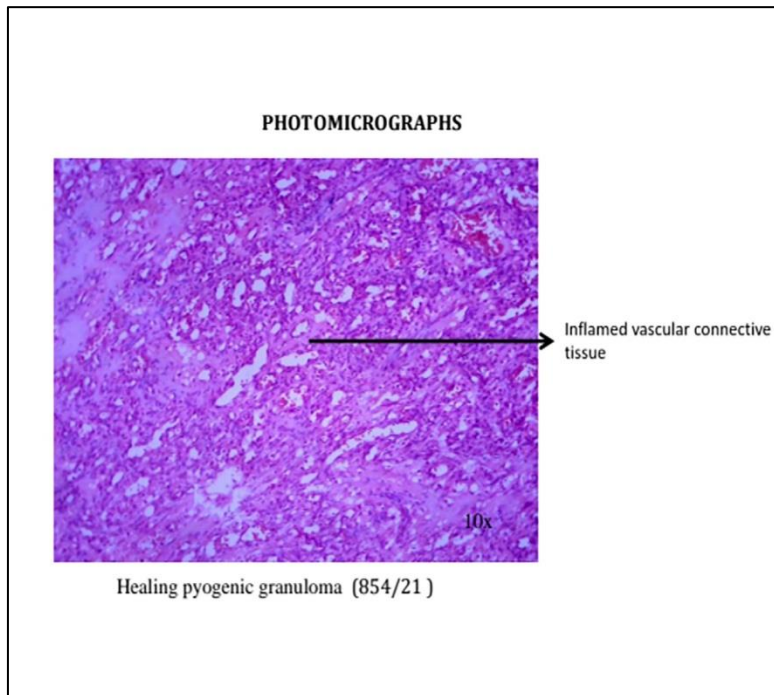


Fig. 2: Photomicrographs of the lesion

Therapeutic Intervention:

Surgical excision of the lesion was done. Oral hygiene instructions, Analgesics and antibiotic therapy were given for 2 weeks.

Follow-up and Outcome:

Follow-up after two weeks revealed satisfactory healing of the surgical site. After one month of review revealed a completely healed surgical site. No recurrence of lesion was noticed after one year of follow-up.

DISCUSSION

Oral Pyogenic granuloma is one of the most common gingival tumor, it has a striking predilection for the gingiva, interdental papillae are the most common site in 70% of the cases. They are more commonly seen on the maxillary anterior area than any other area in the mouth. Most common precipitating factors in oral pyogenic granulomas are gingival irritation and inflammation due to poor oral hygiene, dental plaque and calculus or over-hanging restorations.

Extralingival sites for pyogenic granulomas are lower lip, tongue and palate, which are the areas of frequent trauma but it is usually rare [4].

PGs on tongue are a rare presentation. The lesion on tongue usually presents as diagnostic challenge as it also is the site for benign salivary gland tumor, Lymphangioma, hemangioma and Mucocele. Three main groups of minor salivary glands are found in different locations of the human tongue. Other differential diagnoses include fibroma, lipoma and inflammatory lesions such as fibro epithelial polyp [5].

PGs are usually presented as single nodular or pedunculated lesion with smooth or lobular surface, usually painless, size various from few mm to few cm. Matured lesions are characterized by poorer vascularization, increased amount of collagen and become pink in color [6].

The most common treatment option for pyogenic granuloma is excision, because the excision shows low rate of recurrence [3, 7]. Location of the lesion and size also determines the type of treatment like curettage, electrocautery, radiosurgery, cryosurgery, sclerotherapy, or laser treatment [3]. The histopathological examination of pyogenic granuloma shows exuberant granulation tissue which is covered by atrophic/hyperplastic epithelium that may be ulcerated at times and reveals fibrinous exudates. Presence of

numerous endothelium-lined vascular spaces and proliferation of fibroblasts and budding endothelial cells are the characteristic features of pyogenic granuloma [8]. According to Epivatianos A *et al.*, there are two variants of pyogenic granuloma depending on the rate of proliferation and vascularity; these are lobular

capillary haemangioma and non-lobular capillary haemangioma [9].

Some other presentation of oral pyogenic granuloma and its treatments which is reported previously are given in the table 1 [10].

Table 1: Other presentations of oral pyogenic granuloma

Numbers	Age and Sex	Anatomical Region	Underlying Triggers	Treatment and Other information	Reference
1	35-year-old male	Dorsum of the tongue	No underlying trigger	Saucerization	Sheehan and Leshner.
2	33-year-old female	Gingival mucosa	No underlying trigger	Surgical excision	Madi <i>et al.</i> ,
3	26-year-old female	Gingival mucosa	Pregnancy (24 weeks of gestation)	Surgical excision	Barzegar <i>et al.</i> ,
4	23-year-old female	Cheek (left)	Pregnancy (28 weeks of gestation)	Punch biopsy	Odins <i>et al.</i> ,

CONCLUSION

Pyogenic granuloma is a common lesion occurring in the oral cavity however its extra gingival occurrence is quite rare. This article highlights an uncommon presentation of pyogenic granuloma on the tongue which can be a diagnostic dilemma. Through this case report, we are trying to highlight to the necessity of detailed clinical examination followed by histopathological evaluation for the accurate diagnosis of such oral lesion.

Key Messages: Uncommon presentation of pyogenic granuloma on the tongue which can be a diagnostic dilemma. Hence a detailed clinical examination followed by histopathological evaluation is necessary for the accurate diagnosis of such oral lesions.

Source(s) of Support: Nil

Presentation at a Meeting: Nil

Conflicting Interest: Nil

Contribution Details (to be ticked marked as applicable)

	Contributor 1	Contributor 2
Concepts	✓	✓
Design	✓	✓
Definition of intellectual content	✓	✓
Literature search	✓	
Clinical studies	✓	
Experimental studies		
Data acquisition	✓	✓
Data analysis	✓	✓
Statistical analysis		
Manuscript preparation	✓	
Manuscript editing	✓	✓
Manuscript review	✓	✓
Guarantor	✓	

ACKNOWLEDGEMENT

I would like to acknowledge and give my warmest thanks to my professor and head of the department oral medicine and radiology DR. DEEPAK DARYANI who made this work possible. His guidance and advice carried me through all the stages of my publication work.

I would also like to give special thanks to my co-pg DR. RINKU S NAIR and my juniors DR PRAFEENA and DR GAYATHRI for their continuous support.

REFERENCES

1. Sarwal, P., & Lapumnuaypol, K. (2020). Pyogenic granuloma.
2. Jafarzadeh, H., Sanatkhani, M., & Mohtasham, N. (2006). Oral pyogenic granuloma: a review. *Journal of oral science*, 48(4), 167-75.
3. Wollina, U., Langner, D., Gianfaldoni, S., Lotti, T., & Tchernev, G. (2017). Pyogenic Granuloma – A Common Benign Vascular Tumor with Variable Clinical Presentation: New Findings and Treatment Options. *Open access Macedonian journal of medical sciences*, 5(4), 423-426.

4. Parajuli, R., & Maharjan, S. (2018). Unusual presentation of oral pyogenic granulomas: a review of two cases. *Clinical case reports*, 6(4), 690.
5. Sarada, P., Reddy, C. S., Patil, A. K., & Kurra, S. (2014). Solitary nodular lesion of tongue-a rare entity. *Journal of Clinical and Diagnostic Research: JCDR*, 8(2), 256.
6. Deena, P., Sivakumar, C., Jawahar, D., Boobalan, P., Mohanadhass, B., & Vasanthi, V. (2020). Oral pyogenic granuloma: An unusual presentation in tongue–Case report and comprehensive review. *SRM Journal of Research in Dental Sciences*, 11(4), 212.
7. Al-Noaman, A. S. (2020). Pyogenic granuloma: Clinicopathological and treatment scenario. *Journal of Indian Society of Periodontology*, 24(3), 233.
8. Sharma, S., Chandra, S., Gupta, S., & Srivastava, S. (2019). Heterogeneous conceptualization of etiopathogenesis: Oral pyogenic granuloma. *National Journal of Maxillofacial Surgery*, 10(1), 3.
9. Epivatianos, A., Antoniadis, D., Zaraboukas, T., Zairi, E., Pouloupoulos, A., Kiziridou, A., & Iordanidis, S. (2005). Pyogenic granuloma of the oral cavity: comparative study of its clinicopathological and immunohistochemical features. *Pathology international*, 55(7), 391-397.
10. Luna-Ceron, E., Gómez-Gutiérrez, A. K., Gonzalez-Hernandez, C., & Gatica-Torres, M. (2021). An Uncommon Presentation of Pyogenic Granuloma. *Cureus*, 13(1).

An Unusual Presentation of oral Pyogenic Granuloma on the Tongue



We certify that we have participated sufficiently in the intellectual content, conception and design of this work or the analysis and interpretation of the data (when applicable), as well as the writing of the manuscript, to take public responsibility for it and have agreed to have our name listed as a contributor. We believe the manuscript represents valid work. Neither this manuscript nor one with substantially similar

content under our authorship has been published or is being considered for publication elsewhere, except as described in the covering letter. We certify that all the data collected during the study is presented in this manuscript and no data from the study has been or will be published separately. We attest that, if requested by the editors, we will provide the data/information or will cooperate fully in obtaining and providing the data/information on which the manuscript is based, for examination by the editors or their assignees. Financial interests, direct or indirect, that exist or may be perceived to exist for individual contributors in connection with the content of this paper have been disclosed in the cover letter. Sources of outside support of the project are named in the cover letter.

We hereby transfer(s), assign(s), or otherwise convey(s) all copyright ownership, including any and all rights incidental thereto, exclusively to this journal, in the event that such work is published by this journal. The journal shall own the work, including 1) copyright; 2) the right to grant permission to republish the article in whole or in part, with or without fee; 3) the right to produce preprints or reprints and translate into languages other than English for sale or free distribution; and 4) the right to republish the work in a collection of articles in any other mechanical or electronic format.

We give the rights to the corresponding author to make necessary changes as per the request of the journal, do the rest of the correspondence on our behalf and he/she will act as the guarantor for the manuscript on our behalf.

All persons who have made substantial contributions to the work reported in the manuscript, but who are not contributors, are named in the Acknowledgment and have given us their written permission to be named. If we do not include an Acknowledgment that means we have not received substantial contributions from non-contributors and no contributor has been omitted.

Name	Signature	Date signed
DR. SANDHYAKRISHNA M		1/12/2022
DR.DARYANI DEEPAK		1/12/2022