Recurrent Lobular Capillary Haemangioma of Gingiva: Case Report from a Tertiary Hospital

***Ada. E. OKECHUKWU, *Elizabeth B. DOSUMU, *Modupe O. AROWOJOLU, *Olanrewaju I. OPEODU**

Department of Periodontology and Community Dentistry, University College Hospital, Ibadan, Nigeria.

Correspondence
Dr. Ada. E. Okechukwu
Department of Periodontology and Community Dentistry
University College Hospital
Ibadan, Nigeria.
Email: dradachris@gmail.com.

ABSTRACT

Objective: Pyogenic granuloma (lobular capillary haemangioma) is a well-known inflammatory vascular hyperplasia that sometimes looks like a tumour. It is usually due to an exaggerated response to persistent irritation or minor trauma. The objective of the study was to report a case of recurrent pyogenic granuloma

Description: An erythematous sessile soft tissue growth on the attached gingiva approximately 3 cm × 3 cm. Nontender but bled profusely on probing.

Radiologic findings: No detectable abnormalities in the underlying bone or roots. The lesion was completely excised, and the exposed roots scaled and planed. Histology revealed loosely arranged connective tissue stroma, with moderate chronic inflammatory cell infiltrate, covered by well differentiated stratified squamous epithelium.

Recurrence: 13 years later, the patient represented with a similar lesion on the same location. The presenting complaint and findings were similar to those in the first presentation.

Plan: For complete excision under local anesthesia

Conclusion: This case of recurrent lobular capillary haemangioma corresponded well with available information about the lesion.

Keywords: Capillary haemangioma, gingiva, tertiary hospital

Received: 6th November, 2021
Revision: 15th November, 2021
Accepted: 31st December, 2021

Ada E. Okechukwu
https://orcid.org/ 0000-0002-6644-0290
Elizabeth B. Dosumu
https://orcid.org/ 0000-0003-3493-9748
Modupe O. Arowojolu
https://orcid.org/ 0000-0002-4558-3743
Olanrewaju I. Opeodu
https://orcid.org/ 0000-0002-4386-1439

Citation: Okechukwu AE, Dosumu EB, Arowojolu MO, Opeodu OI. Recurrent lobular capillary haemangioma of gingiva: case report from a tertiary hospital. Nig J Periodontal Res 2022; 3(2):99-106.

CLINICAL IMPLICATIONS

Lobular capillary haemangioma of the gingival is associated with higher recurrence rate compared to other sites more aggressive treatment may be required

INTRODUCTION

Lobular capillary haemangioma, previously called pyogenic granuloma, is an inflammatory vascular hyperplasia commonly seen in the oral cavity.[1-3] It consists of exuberant connective tissue proliferation usually due to an exaggerated response to minor trauma or persistent irritation.[1] It usually looks like a tumor.[4] However, it is made up of inflamed fibrovascular tissue. Lobular capillary haemangioma has been known by other names such as pregnancy epulis, giant cell granuloma, papillary hyperplasia; and most famously pyogenic granuloma.[1,4] The name Lobular Capillary Haemangioma best describes the lesion, based on its histological picture. Clinically, it often presents as an exophytic mass with smooth or ulcerated surface, usually erythematous, and may be attached by either a pedunculated or sessile base.[5] The lesion grows slowly, taking several weeks to months to reach appreciable size,[6] with the size at presentation usually ranging from few millimeters to about 4 cm in diameter.[7]

Histologically they are classified as either Lobular or Non-Lobular types, depending on vascularity and proliferation rate.[4,8,9] It has a peak prevalence in the second and third decades of life, with a characteristic female predominance.[10,11] The anterior maxillary labial gingiva is reportedly frequently involved, followed by posterior maxillary buccal gingiva.[11-13] Other sites of occurrence include lips, palate, tongue, hypopharynx, nasal septum, and face. [5,14- 20] The diagnosis is complicated by close differentials of gingival enlargements including inflammation, cysts and neoplasm.[5,21,22]

Reported predisposing factors for lobular capillary hemangioma are low-grade local irritation, (with poor oral hygiene being reported in majority of patients), hormonal factors, traumatic insult, and as a reaction to a wide variety of drugs.[11,23] Treatment is usually surgical excision, which commonly gives good outcome.[11,24] However, a few lesions do recur. Gingival lesions show higher recurrence rate as compared to other sites.[25] Recurrence has also been attributed to incomplete tumor removal by simple excision, persistence of the causative factors.[26]

For recurrent tumors, other treatment measures are employed.[27-29] example is the Modified Excision with Deep Curettage which includes 2 mm of the adjacent normal tissue to ensure complete removal of the lesion. This can be followed by sclerosing with iodoform gauze impregnated with white head varnish.[30-32] Non-surgical approaches are also employed in certain cases such as pregnancy and in children.[33,34] In this paper, a case report of recurrent lobular capillary haemangioma of the gingiva is presented.

CASE REPORT

Presenting Complaint

A 58-year-old female presented in our center 13 years ago with a complaint of swelling on the left upper jaw (2-year duration).

Family/Social History

The patient was using chewing stick and toothbrush at the same time for brushing.

Physical Examination

A solitary, sessile soft tissue growth was observed on the attached gingiva of the buccal aspect of the left maxilla. It extended from the left lateral incisor to first premolar region, measuring approximately 3 cm × 3 cm.

Clinical findings.

It appeared erythematous, with a smooth overlying surface and bled profusely on probing, though nontender. The oral hygiene was grossly poor. No associated tooth mobility, and lymph nodes were palpable but nontender.

Radiologic findings: Peri-apical radiograph showed no detectable abnormalities in the underlying bone or roots

Treatment: Under local anesthesia, the lesion was excised completely, and the exposed roots scaled and planed.

Histopathological examination

Histopathological examination of the excised tissue showed loosely arranged connective tissue stroma, with moderate chronic inflammatory cell infiltrate, covered by well differentiated stratified squamous epithelium.

The diagnosis of pyogenic granuloma (lobular capillary haemangioma) was confirmed.

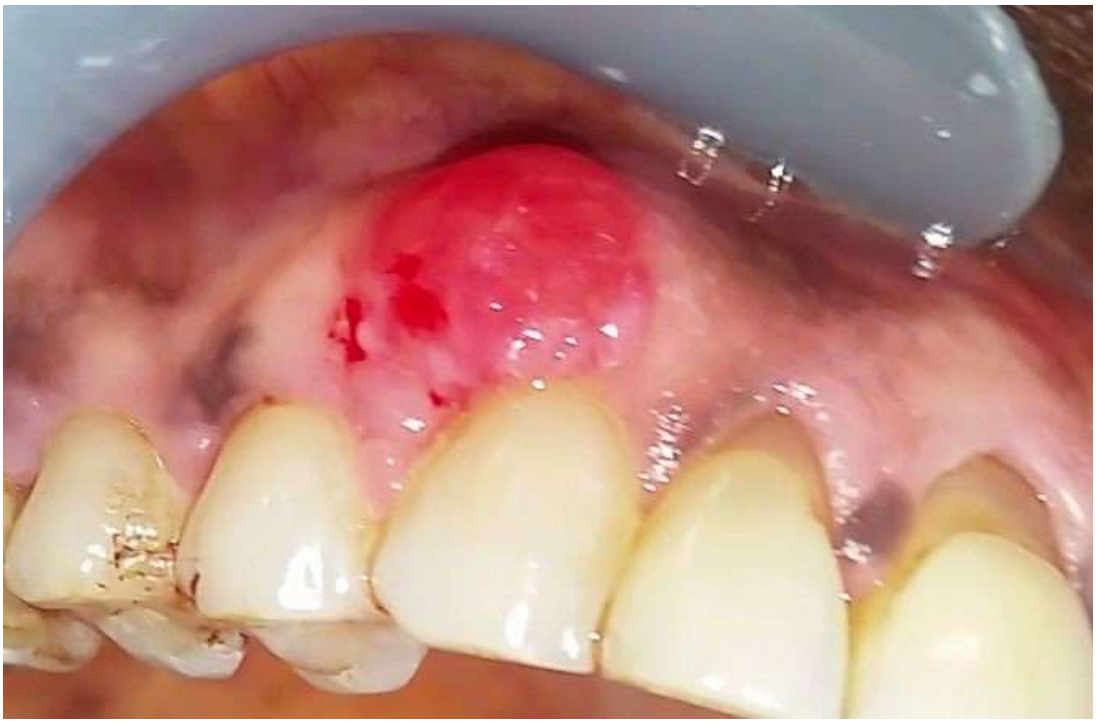


Figure 1. Lobular Capillary Hemangioma

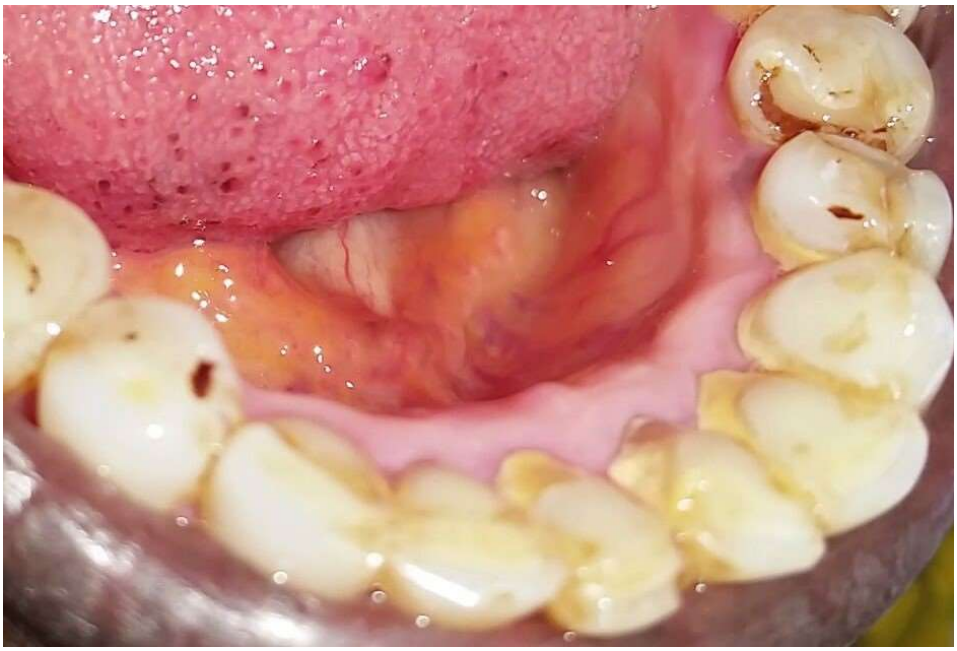


Fig 2. Oral Hygiene of the patients

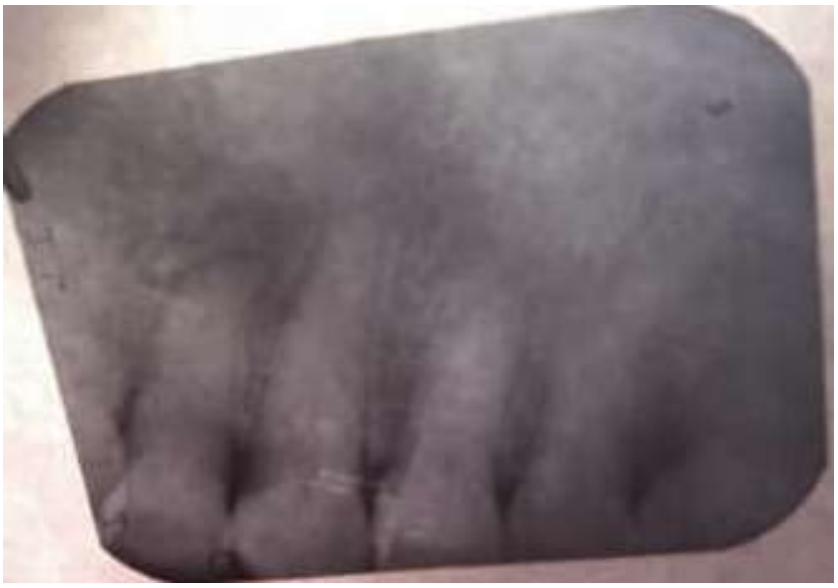


Figure 3. Peri-apical Radiograph

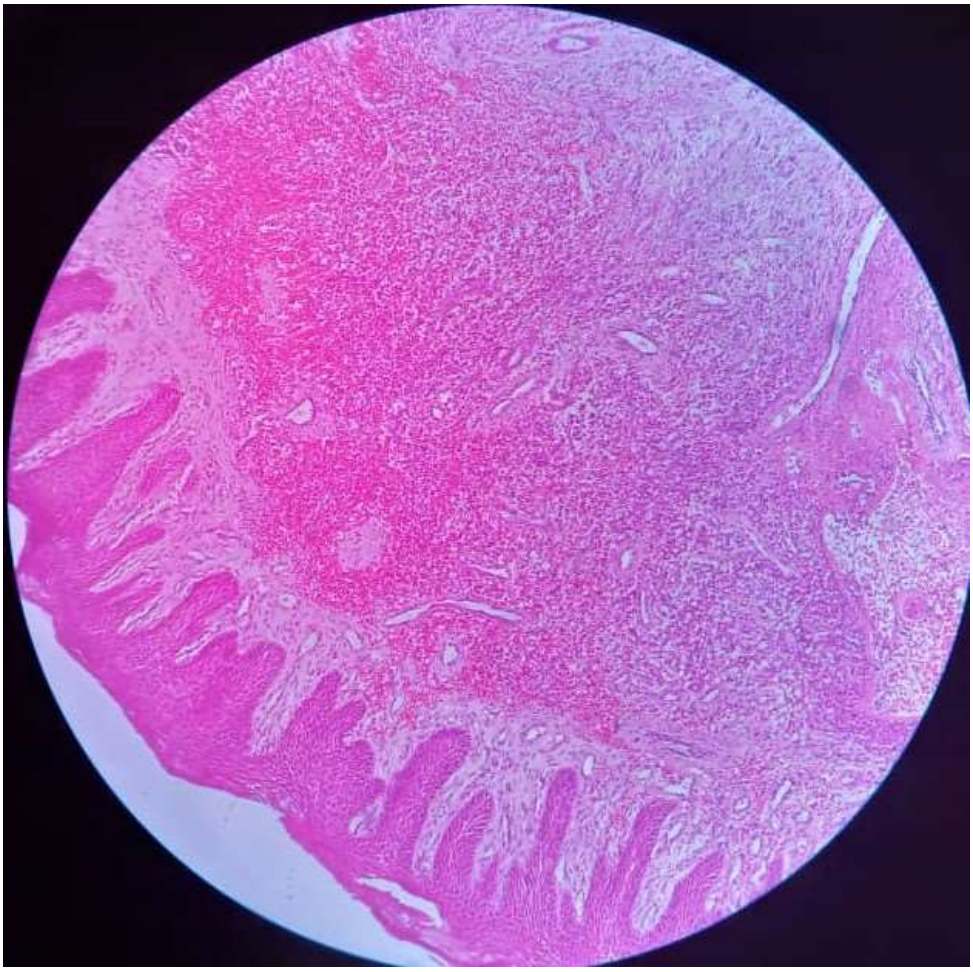
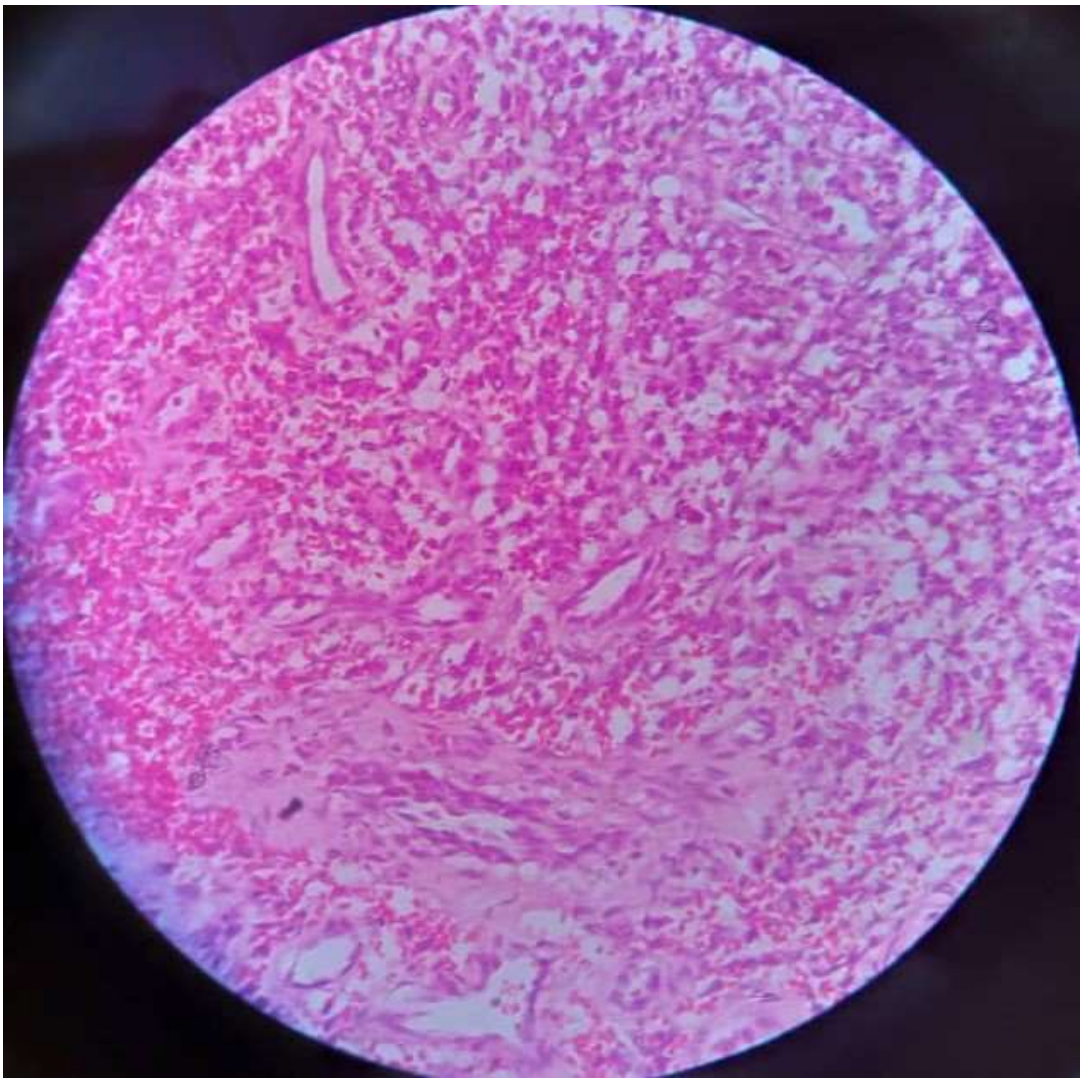


Figure 4. Histopathological Report

Micrograph 1: Intermediate power showing well differentiated epithelium, vascular channels and red blood cells.



Micrograph 2: Higher magnification showing vascular channels and red blood cells and inflammatory cell infiltrate.

Re- Presentation/Recurrence

The patient presented again 13 years later with a lesion on the same location. The presenting complaint and examination findings were like the previous lesion as described above.

A provisional diagnosis of pyogenic granuloma (lobular capillary haemangioma) was made.

Plan: A plan of Modified Excision with Deep Curettage to include 2 mm of the adjacent normal tissue. Also, for possible sclerosing using iodoform gauze impregnated with white head varnish.

Informed consent was obtained from the patient for this report.

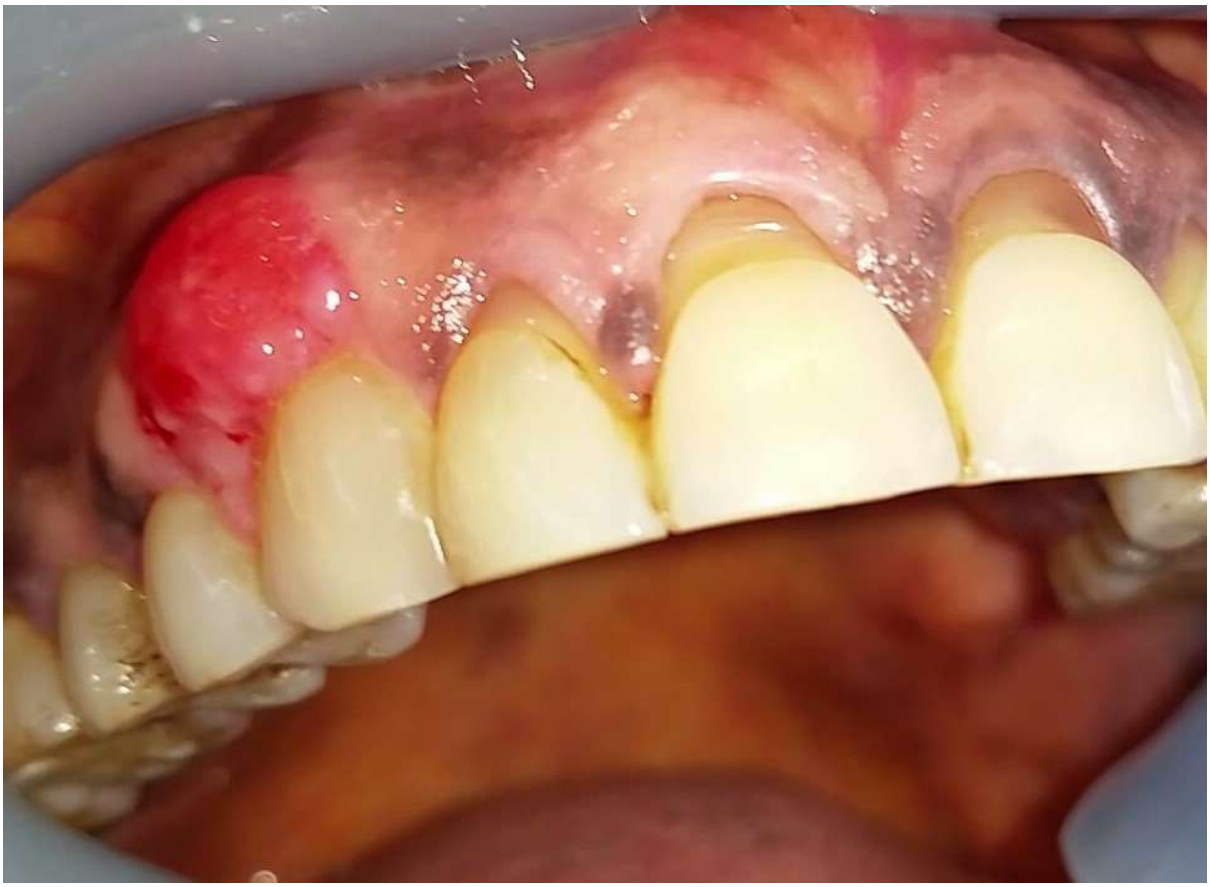


Figure 4. Recurrent Growth

DISCUSSION

The case report of recurrent lobular capillary haemangioma of the gingiva presented in this paper compares relatively well with the available information in literature. This patient was a female, which is the sex reported to be more commonly associated with the lesion.[10,11]

The initial age of presentation, which fell within the sixth decade of life, though not within the documented peak age of second to third decade,[10,11] is however also documented in literature.[35-37] The clinical features presented by this patient: a nontender solitary, sessile soft tissue growth on the attached gingiva, which had a smooth surface and bled on probing, are all in keeping with literature findings as well.[5-7,30] This lesion was located in the buccal aspect of the anterior maxilla, which is the most commonly associated location of the tumor in published studies.[11,12]

The patient presented after harboring the lesion for two years, which suggested a benign nature of this case.[6] The combined use of chewing stick and toothbrush for brushing may point to inability to achieve good oral hygiene using either alone.[38] Also, the patient presented with a grossly poor oral hygiene despite the claimed use of both chewing stick and toothbrush. The post excision recurrence of this case, 13 years later, could possibly relate to the age group of this patient, considering that research has shown less recurrence observed in women of childbearing age, who received simple excision with no prophylactic removal of marginal normal tissue. It could also relate to the size of the lesion, which was about double that of those usually presented in the younger patients.[30]

CONCLUSION

This case of recurrent lobular capillary haemangioma of the gingiva corresponded well with available information about lobular capillary hemangioma in literature.

Financial Sponsorship

No external source of funding

Conflict of Interest-
None declared

REFERENCES

1. Varghese G, Girish KL, Sathyan P,. Aldrin Jerry J. Lobular Capillary Hemangioma. Oral Maxillofac. Pathol J 2017; 8(1):43-46.
2. Nwhator SO, Adesina MO, Adewole O. Gingival lobular capillary hemangioma: clinicopathologic review of forty-five cases. IOSR J Dent Med Sci 2020; 19(3):6-8.
3. Modak R, Chaudhary M CS. Lobular Capillary Hemangioma on gingiva: A Report of two cases & Review of Literature. J Med Dent Sci. 2019;18(1):32–36.
4. Mohanty I, Panda S, Mohanty N, Dalai R, Champatyray S, Sukla P. Oral Pyogenic granuloma: Retrospective Review of 49 Cases in a Tertiary Care Dental Institution of Odisha. Indian J Forensic Med Toxicol 2021; 15(2):3809-3812.
5. Parajuli R, Maharjan S. Unusual presentation of oral pyogenic granulomas: a review of two cases. Clin Case Rep. 2018; 6(4):690-693.
6. Kaya A KB. Oral pyogenic granuloma Review of 10 cases. Indian J Med Res Pharm Sci. 2015;2(7):44–8.
7. Newman MG, Takei H CF. Textbook of Carranza's Clinical Periodontology. 10th ed. The Netherlands: Elsevier Publ 2006;176-177.
8. UCHE IE, Iman MI, Ndugbu CU. Oral pyogenic granuloma and its histological variants: A review of case series. NIg J Dent Res 2011; 4(2):121-127
9. Elumalai R, Kumar KU, Anitha N ML. Non-Lobular Capillary Haemangioma-A Histopathological Variant of Pyogenic Granuloma. Indian J Public Heal Res Dev 2019; 10(8):1808-1811.
10. Alwan AH, Zardawi FM, Gul SS HA. Determining the Prevalence and Distribution of Gingival Pyogenic Granuloma in Sulaimani Population, Kurdistan Region, Iraq. Int J Med Med Sci. 2021;10:79-88.
11. Sharma D, Tripathi GM, Dixit S, Pillai A, Thomas S. Prevalence and pattern of lobular capillary hemangioma in Eastern Madhya Pradesh, India: A clinicopathological analysis. Indian J Dent Res. 2017; 28(4):424-428.
12. Pandey S, Saini A, Verma SC SP. Rare Occurrence of Lobular Capillary Haemangioma in Maxillary Posterior Segment Involving the Alveolar Mucosa. Univ J Dent Sci 2020;6(1):56-59.
13. Chan C, Iv M, Fischbein N DH. Lobular capillary hemangioma of the mandible: A case report. Clin imaging 2018; 50:246-249.
14. Al Khayrat FM, Ahmed SA, Khawaji AA, Alhazmi NH, Hamzi KA AF. Large lobular capillary hemangioma of lower lip: A case report and review of literature. Med Sci 2020; 24(106):4726-30.
15. Havle AD, Shedge SA DR. Lobular capillary hemangioma of the palate-a case report. Iran J Otorhinolaryngol 2019; 31(107):399.
16. Sharma SR, Mehra A, Karjodkar FR SK. Atypical extragingival occurrence of lobular capillary hemangioma: A report of two cases. J Indian Soc Periodontol 2021;25(3):254.
17. Say MA, Yigit VB KC. Lobular capillary hemangioma of the nasal septum. J Med Cases Updat 2021; 1(1):1-3.
18. Rai R, Dasgupta S, Babaji P SK. Lobular capillary hemangioma in a rare location–A case report. Int J Med Dent case reports. 2019;6(1):1-3.
19. Norman CC, Kahn JB. Infarcted Tarsal Pyogenic Granuloma Simulating Malignant Melanoma. Ophthalmic Plast Reconstr Surg 2017; 33:33-34.
20. Silva HM, Silva G, Costa E, Lima R PF. Pyogenic granuloma of the ampulla of Vater: unexpected cause of gastrointestinal bleeding. Clin J Gastroenterol 2019; 12(1):34–37.
21. Poudel P, Chaurasia N, Marla V, Srii R. Pyogenic granuloma of the upper lip: A common lesion in an uncommon location. J Taibah Univ Med Sci 2019; 14(1):95-98.
22. Sharma S, Singh S, Yadav L, Tyagi S. Pyogenic granuloma: A case report and a comprehensive review. J Oral Res Rev 2021; 13:53-59
23. Silva IM, Landgraf AC, Gomi MY, de Azambuja Berti Couto S, Johann AC, Franco A CSP. Potential Influence of Testosterone in Lobular Capillary Hemangioma. J Dent Child. 2018; 85(2):70-74.
24. Dave K, Nadig P, Thakkar B, Chandran S PR. Surgical Management of Reactive Lesion of Gingiva: A Case Series. Natl J Integr Res Med. 2018;9(3):75-78.
25. Jafarzadeh H, Sanatkhani M MN. Oral pyogenic granuloma: a review. pyogenic granuloma: a review. J Oral Sci 2006; 48:167-175.
26. Tiwari S, Neelakanti A, Sathyanarayana S. An

innovative and less invasive management of recurrent pyogenic granuloma in the esthetic zone: A case report with 18-month follow-up. J Indian Soc Periodontol 2017; 21(3):241-244.
27. T Ogunwemimo M, Ibukun OO, Onabanjo O, Akinyemi OO et al. Overcoming the Recurrence Dilemma o f Oral Lobular Capillary Hemangioma (Pyogenic Granuloma): Case Series of an Alternative Therapeutic Approach. Niger J Res Orofac Infect Oncol 2019; 2(2):26-30.
28. Ramalingam, K., Poonia, M., Goyal, S., Salaria, S. & Kamboj S. Recurrent Pyogenic Granuloma In Maxillary Gingiva- A Case Report. Case Reports Odontol 2016; 3(2):05-08.
29. Dong J, Peng SG, Zhang XY, Tong CG, Liu F, Cao M, Li YH HY. Efficacy of Nd-YAG laser for treatment of pyogenic granuloma on the fingers and toes. Lasers Med Sci 2018; 34(1):41-45.
30. Al-Noaman AS. Pyogenic granuloma: Clinicopathological and treatment scenario. J Indian Soc Periodontol 2020; 24(3):233-236.
31. Caballero L AM. Oral pyogenic granuloma: Treatment. Cient Dent 2019;9:33–40.
32. Gomes SR, Shakir QJ, Thaker PV TJ. Pyogenic granuloma of the gingiva: A misnomer? A case report and review of literature. J Indian Soc Periodontol 2013; 17:514-519.
33. El Ayachi H, Sihame A, Cherkaoui A. Periodontal management of changes in gingiva during pregnancy: A nonsurgical approach. Int J Appl Dent Sci 2021; 7(1):272-276.
34. Kalra N, Tyagi R, Khatri A, Singh HV, Sabherwal P, Sharma M. Propranolol therapy for the management of oral lobular capillary hemangioma in a 2-year-old preschooler: A case report and review. SRM J Res Dent Sci 2020; 11:50-53
35. Lawoyin JO, Arotiba JT DO. Oral pyogenic granuloma: a review of 38 cases from Ibadan, Nigeria. Br J Oral Maxillofac Surg 1997; 35(3):185-189.
36. PPatil K, Mahima VG, Lahari K. Extragingival pyogenic granuloma. Indian J Dent Res 2006; 17(4):199-202.
37. Lee HM, Lee S HS. A giant pyogenic granuloma in the nasal cavity caused by nasal packing. Eur Arch Otorhinolaryngol 2002; 259(5):231-233.
38. Adam FA, Rani H, Baharin B, Yusof MM MNS persica L. chewing sticks and standard toothbrush as anti-plaque and anti-gingivitis tool: A systematic review and meta-analysis. J Ethnopharmacol 2021; 274:113882.