Peripheral Ossifying Fibroma

Group 5, 5B- 3,October 7, 2020

Rounds Team

- Group Leader: Dr. Dix
- Specialty Leader: Dr. Demiturk
- Project Team Leader: Maggie Schlindwein
- Project Team Participants: Lester Chadwick ; Samantha Mandel; Alexis Brady

Patient

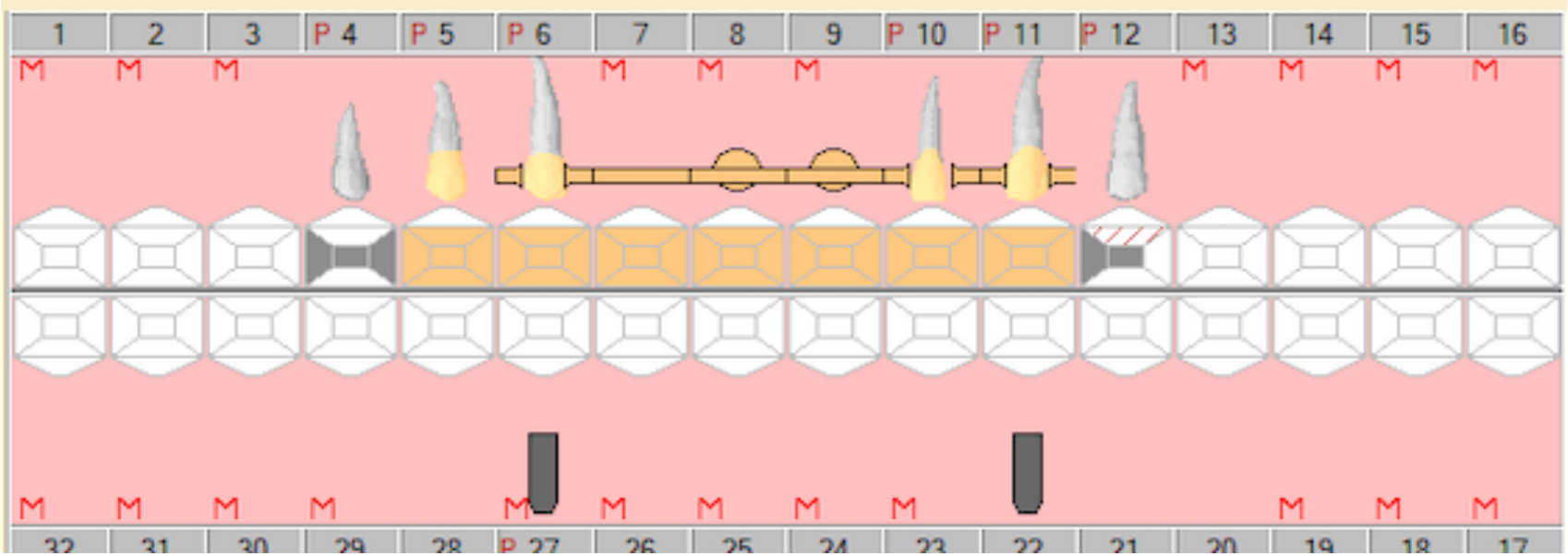
- 77 year old
- Male
- Caucasian
- Chief Complaint: “My denture is loose and I have a white bump, but it doesn’t hurt”
- Maxillary partial
- Implants were placed in 2018 and mandibular overdenture was fabricated in 2019

Medical History

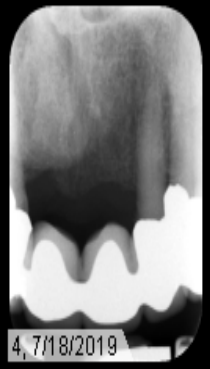
- Benign prostate tumor (2014), stroke (2013), osteoarthritis, vision & hearing problems
- 81 mg aspirin
- Past smoker

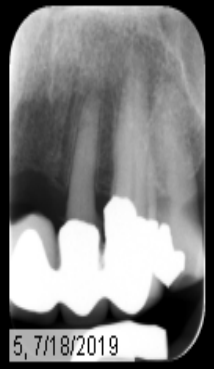
Dental History

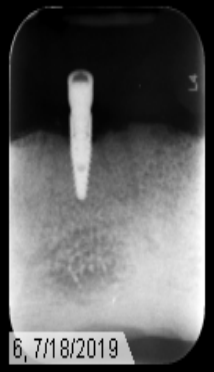
- MOD amalgam #4; MO amalgam #12
- PFM crown #5
- PFM bridge #6-11
- Implants at #22 & #27
- Missing #1- 3, 13-32



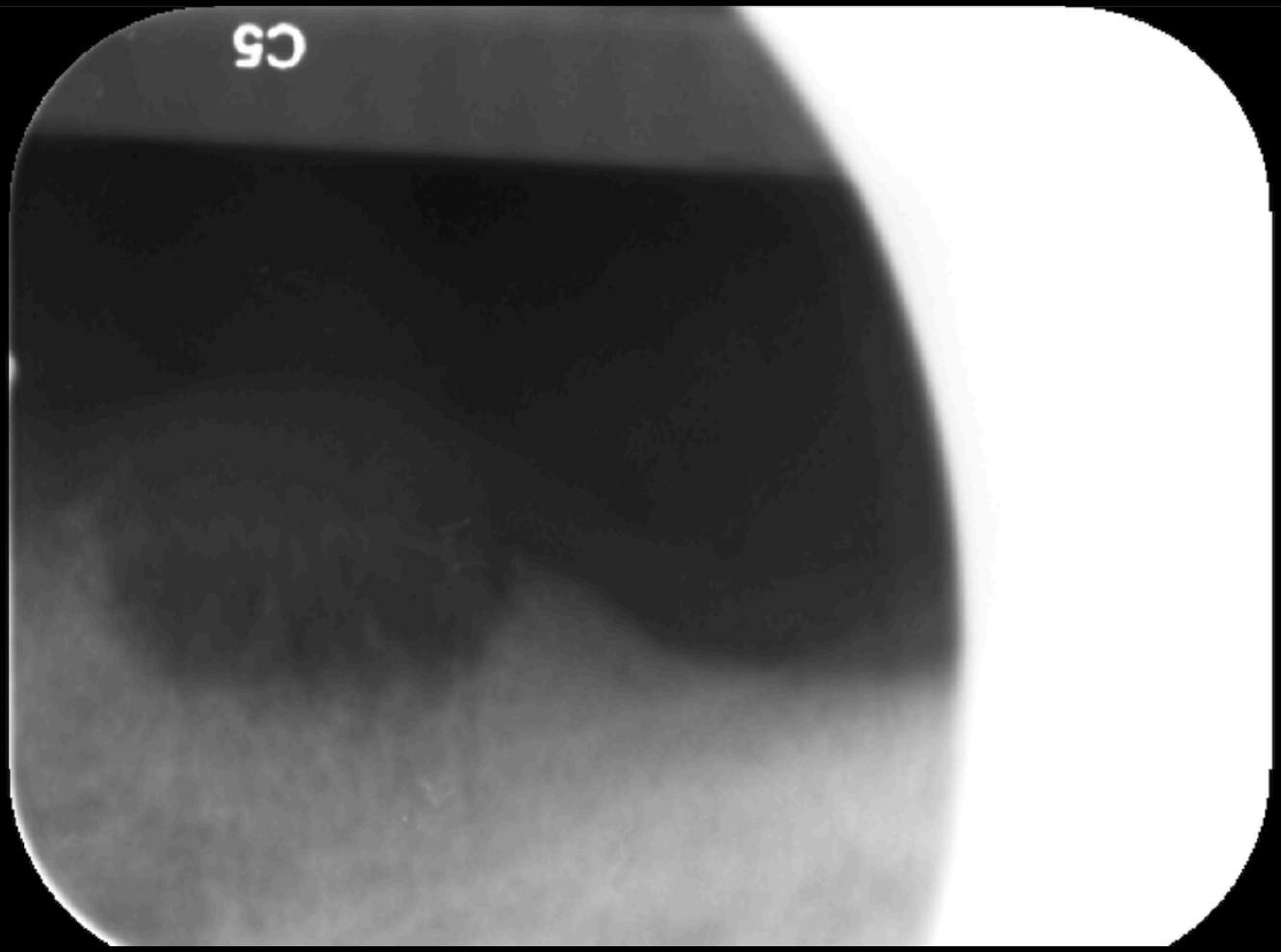
Radiographs





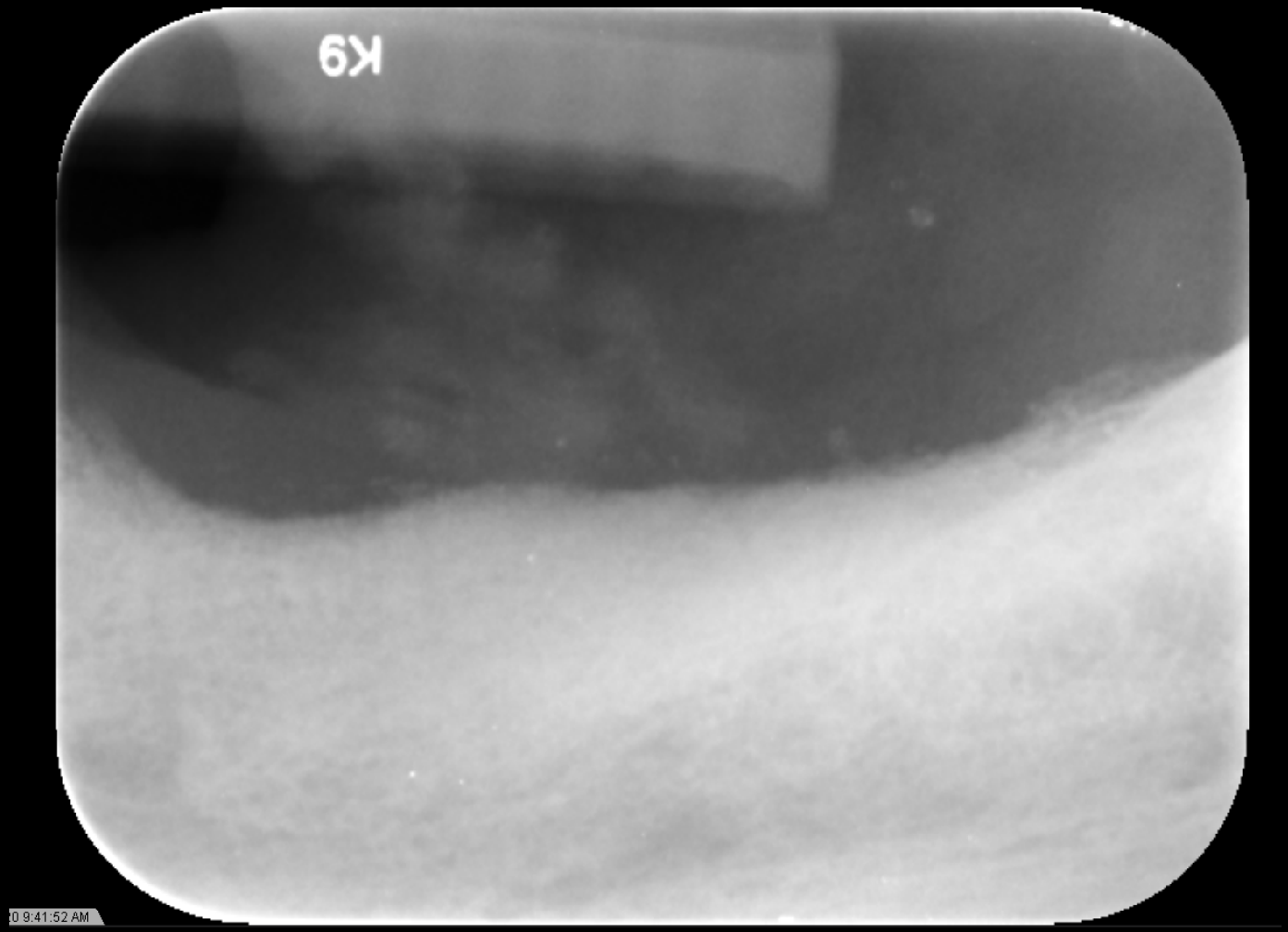


Radiographic Findings



October 1, 2019

Radiographic Findings



September 30, 2020

Clinical Findings

- Heavy supra and sub gingival calculus
- Occlusion on partial and CD appear normal
- No looseness or sensitivity of implants upon periodontal probing

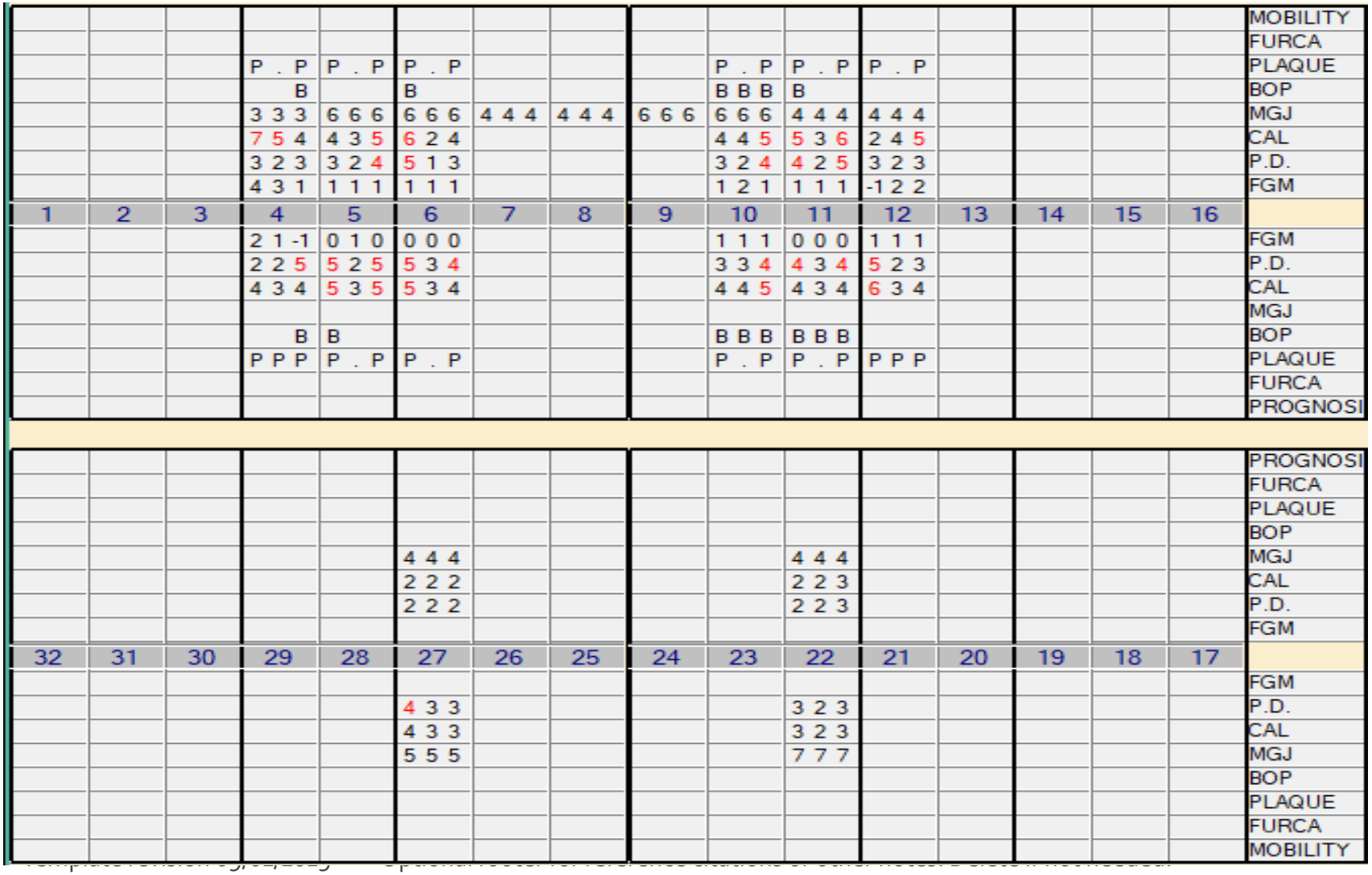
Specific Findings

- July 2019: "purple red mass of tissue on the alveolar ridge where denture sits on the left side near premolar area. Has 2x1 mm black macule present on the labial surface"
- October 2019: "large white lesion with ulcerated middle on the left mandibular alveolar ridge distal to implant #22. Does not look like chronic denture irritation and has grown twice the size since 7/19"
  - Observe 4-6 weeks. Differential diagnosis: residual cyst vs hemangioma

Specific Findings

- November 4, 2019: ”3 x 4 mm ulcerated lesion at site #19-20. No pain upon pressure and palpation. White and red color change on the top of the surface rom previous clinical evaluation”
- November 7, 2019: Excisional biopsy in OS
- November 21, 2019: OS Post op
- September 30, 2020: Patient reports no pain/irritation and improved denture fit

Periodontal Charting



																MOBILITY
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			7 5 4	4 3 5	6 2 4				4 4 5	5 3 6	2 4 5					CAL
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			2 2 5	5 2 5	5 3 4				3 3 4	4 3 4	5 2 3					P.D.
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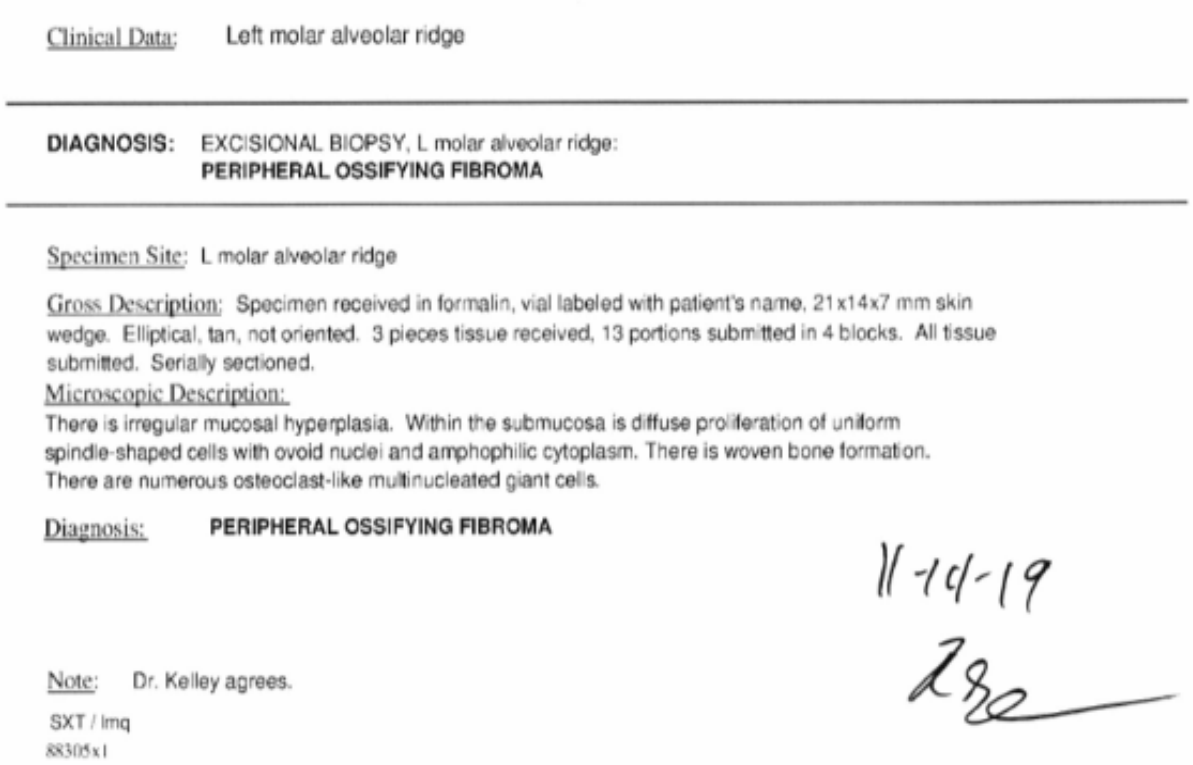
Diagnosis

- Peripheral ossifying fibroma



Clinical Data: Left molar alveolar ridge

DIAGNOSIS: EXCISIONAL BIOPSY, L molar alveolar ridge:
PERIPHERAL OSSIFYING FIBROMA

Specimen Site: L molar alveolar ridge

Gross Description: Specimen received in formalin, vial labeled with patient's name, 21x14x7 mm skin wedge. Elliptical, tan, not oriented. 3 pieces tissue received, 13 portions submitted in 4 blocks. All tissue submitted. Serially sectioned.

Microscopic Description:
There is irregular mucosal hyperplasia. Within the submucosa is diffuse proliferation of uniform spindle-shaped cells with ovoid nuclei and amphophilic cytoplasm. There is woven bone formation. There are numerous osteoclast-like multinucleated giant cells.

Diagnosis: **PERIPHERAL OSSIFYING FIBROMA**

11-14-19

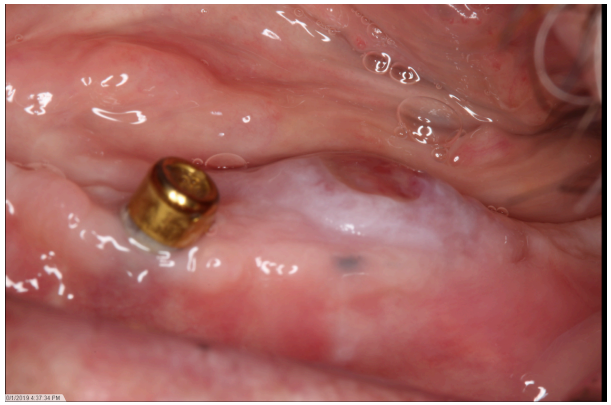
Note: Dr. Kelley agrees.

SXT / lmq
88305x1

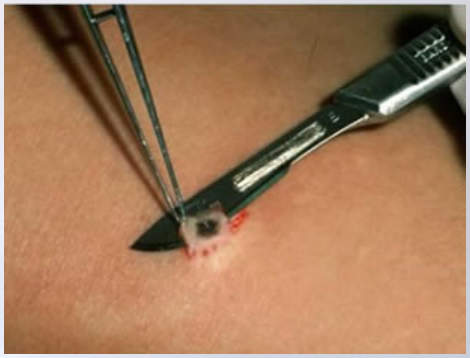
Problem List

- Heavy supra/sub gingival plaque
- Lesion in LL molar area
- Home care

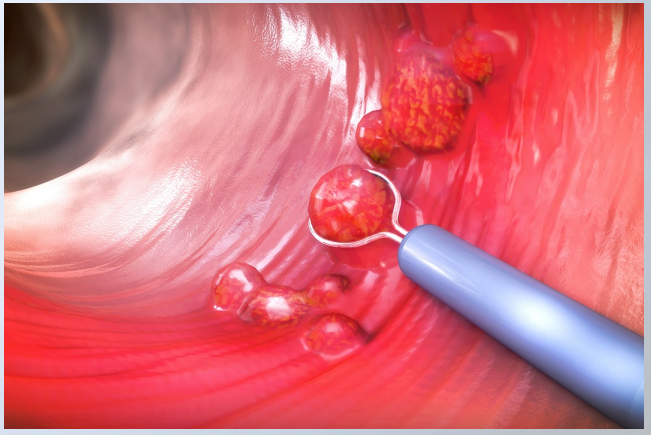
Appropriate Clinical Photographs



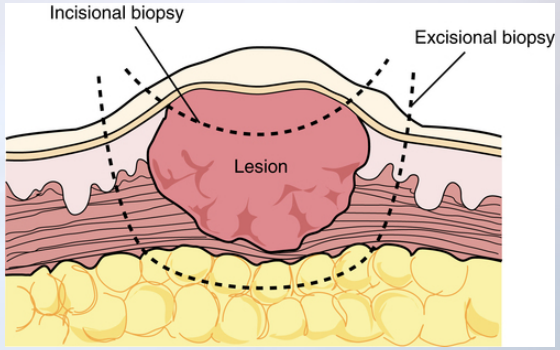
What is a Biopsy?



- Surgical obtainment of tissue
- Tremendous medical value, offers information on appropriate treatment planning for patient
- Importance in dental field
  - Find lesions in oral mucosa suggestive of malignancy
- Useful for diagnosing different types of lesions, infections, and systemic illness
- Incorrect usage of Biopsy
  - Importance in distinction of technique and materials



Incisional vs Excisional Biopsy



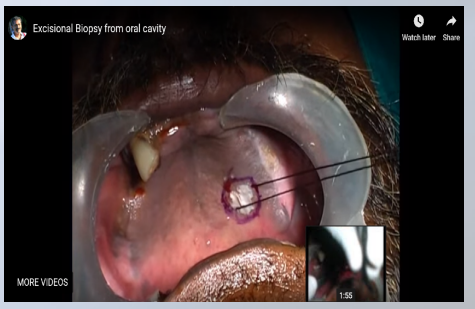
Incisional Biopsy

- Representative sample of lesion and adjacent healthy tissue
- Multiple samples can be obtained
- **Advantages**: Large, complicated location of lesion
- **Disadvantages**: Increase risk of metastasis, invasion of bloodstream

Excisional Biopsy

- Total removal of lesion, wider margin of adjacent healthy tissue
- One sample
- **Advantages**:
  - Smaller, discrete lesions
  - Complete inclusion of peripheral margins
  - Preferred overall over incisional

Lesion following Incisional biopsy



Excisional biopsy

References

(1) Mota-Ramírez A, Silvestre FJ, Simó JM. Oral biopsy in dental practice. Med Oral Patol Oral Cir Bucal. 2007 Nov 1;12(7):E504-10. PMID: 17978774. From https://0-pubmed-ncbi-nlm-nih-gov.libus.csd.mu.edu/17978774/

(2) Shinohara S, Takebayashi S, Kikuchi M, Michida T, Hayashi K, Yamamoto R, Saida K, Mizuno K, Fujiwara K, Naito Y. Prognostic impact of incisional or excisional biopsy of cervical lymph node metastases of solid tumors. Jpn J Clin Oncol. 2018 Jun 1;48(6):529-534. doi: 10.1093/jjco/hyy056. PMID: 29688530. From https://0-pubmed-ncbi-nlm-nih-gov.libus.csd.mu.edu/29688530/

(3) Kumaraswamy KL, Vidhya M, Rao PK, Mukunda A. Oral biopsy: oral pathologist's perspective. J Cancer Res Ther. 2012 Apr-Jun;8(2):192-8. doi: 10.4103/0973-1482.98969. PMID: 22842360. From https://0-pubmed-ncbi-nlm-nih-gov.libus.csd.mu.edu/22842360/

D2 Pathology: What is a peripheral ossifying fibroma?

- A reactive inflammatory process that results in a benign tumor
- Mixture of connective tissue stroma with calcifications in the interdental region
- Parakeratinized stratified squamous epithelium overlying fibro-cellular CT with haphazardly laid spindle cells, lymphocytes, and calcifications (cementum, woven and lamellar bone.
- Normally appear in females, maxilla region, in 3rd and 4th decades of life
- Diagnosed via histological examination- clinically confused with pyogenic granulomas, They often appear red/pink in color, can be sessile or pedunculated, and has a broad base by which is attaches to underlying tissue

References:
Burkhart, N. W. (2017, January 16). Please Enable Cookies. Retrieved September 03, 2020, from https://www.rdhmag.com/patient-care/article/16409902/similar-appearances-in-oral-pathology-is-it-a-peripheral-ossifying-fibroma-or-a-pyogenic-granuloma

Childers, E., Morton, I., Fryer, C., & Shokrani, B. (2013, July 16). Giant peripheral ossifying fibroma: A case report and clinicopathologic review of 10 cases from the literature. Retrieved September 03, 2020, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3824796/

Lázare, H., Peteiro, A., Sayáns, M., Gándara-Vila, P., Caneiro, J., García-García, A., . . . Suárez-Peñaranda, J. (2019, October 08). Clinicopathological features of peripheral ossifying fibroma in a series of 41 patients. Retrieved September 10, 2020, from https://www.sciencedirect.com/science/article/pii/S0266435619303900

Nadimpalli, H., & Kadakampally, D. (2017, November 28). Recurrent peripheral ossifying fibroma: Case report. Retrieved September 3, 2020, from http://www.dmp.umed.wroc.pl/pdf/2018/55/1/83.pdf

D2 Pathology: What is a peripheral ossifying fibroma?

- Comparison: Pyogenic granulomas are erythematous/red in color and is ulcered at the surface. Under the microscope it appears as very vascularized granulation tissue no calcifications
- POF is usually <2 cm but there have been reports of larger or giant POFs
- For treatment early diagnosis is very important- Excision and curettage of surrounding tissue prevents recurrence
- Believed to originate from PDL but it is unknown. Plaque, calculus, trauma, microorganisms and trauma are all thought to be triggers

References:

Burkhart, N. W. (2017, January 16). Please Enable Cookies. Retrieved September 03, 2020, from https://www.rdhmag.com/patient-care/article/16409902/similar-appearances-in-oral-pathology-is-it-a-peripheral-ossifying-fibroma-or-a-pyogenic-granuloma

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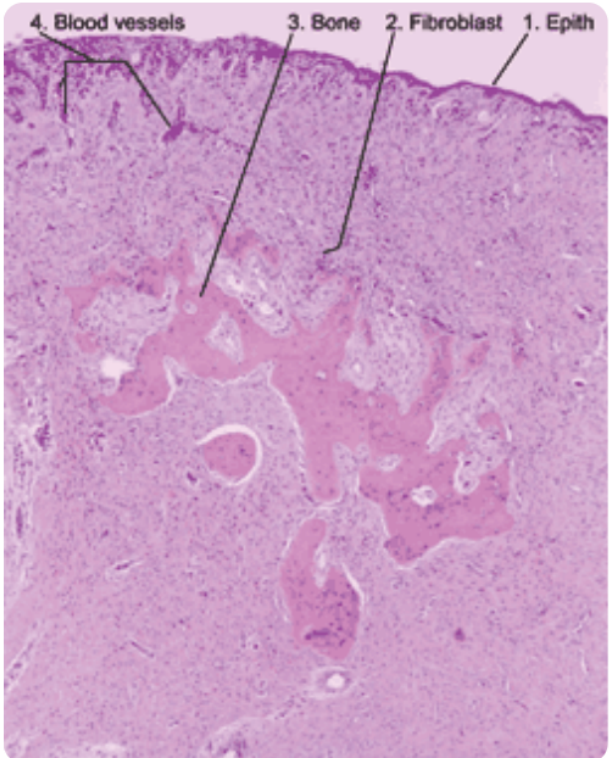
D2: Peripheral ossifying fibroma



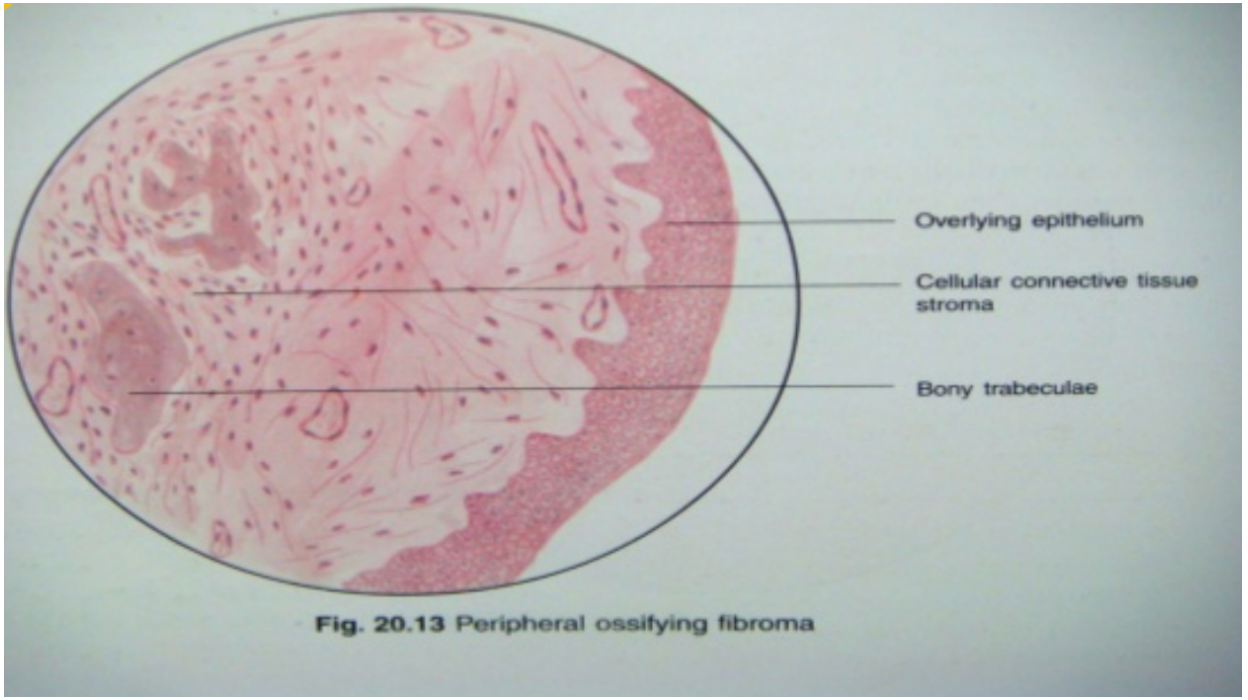


Fig. 20.13 Peripheral ossifying fibroma

Image References:
Burkhart, N. W. (2017, January 16). Please Enable Cookies. Retrieved September 03, 2020, from https://www.rdhmag.com/patient-care/article/16409902/similar-appearances-in-oral-pathology-is-it-a-peripheral-ossifying-fibroma-or-a-pyogenic-granuloma

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D3 PICO

- **Clinical Question:**

What is the differential treatment plan for a peripheral ossifying fibroma?

PICO Format

P: Ill-defined lesion

I: Excisional biopsy

C: Incisional biopsy

O: Prevent spread of disease

PICO Formatted Question

- In a patient with an ill-defined lesion, does incisional versus excisional biopsy better prevent spread of disease?

Clinical Bottom Line

- Excisional biopsy with adjunctive techniques better prevents spread of disease, but incisional better preserves function and is less debilitating

Search Background

- **Date(s) of Search:** 9/10/20, 9/13/20
- **Database(s) Used: PubMed**
- **Search Strategy/Keywords:** peripheral ossifying fibroma, recurrence rate, conservative treatment, oral pathology

Search Background

- **MESH terms used:** fibroma, ossifying/surgery; fibroma, ossifying; surgical procedures, operative

Article 1

- Is conservative surgery a better choice for the solid/multicystic ameloblastoma than radical surgery regarding recurrence? A systematic review.

- **Study Design**: systematic review
- **Purpose**: To determine if conservative surgery of primary solid/multicystic ameloblastoma is capable of decreasing recurrence rate as effectively as radical surgery

Slusarenko da Silva Y, Tartaroti NA, Sendyk DI, Deboni MCZ, Naclério-Homem MDG. Is conservative surgery a better choice for the solid/multicystic ameloblastoma than radical surgery regarding recurrence? A systematic review. *Oral Maxillofac Surg*. 2018;22(4):349-356. doi:10.1007/s10006-018-0715-9

Article 1 Synopsis

- **Method**: searched databases for original studies on conservative versus radical surgeries
  - Performed a meta-analysis
  - Started with 2647 studies, reduced to 7
- **Results**: Values obtained showed that recurrence rate after conservative surgery is neither comparable nor lower than the radical surgery
- **Conclusions**: conservative surgery doesn't reduce recurrence rate as efficiently as radical surgery for primary SMA
  - Not enough evidence to support this statement

Slusarenko da Silva Y, Tartaroti NA, Sendyk DI, Deboni MCZ, Naclério-Homem MDG. Is conservative surgery a better choice for the solid/multicystic ameloblastoma than radical surgery regarding recurrence? A systematic review. *Oral Maxillofac Surg*. 2018;22(4):349-356. doi:10.1007/s10006-018-0715-9

Article 1 Selection

- Limitations: more studies needed for proper analysis and comparison
- Systematic review relating to incisional versus excisional
- Analyzing removing a benign tumor from the jaw

Slusarenko da Silva Y, Tartaroti NA, Sendyk DI, Deboni MCZ, Naclério-Homem MDG. Is conservative surgery a better choice for the solid/multicystic ameloblastoma than radical surgery regarding recurrence? A systematic review. *Oral Maxillofac Surg*. 2018;22(4):349-356. doi:10.1007/s10006-018-0715-9

Article 2

- Ossifying Fibroma: Analysis of Treatment Methods and Recurrence Patterns.

- **Study Design**: Retrospective case-study
- **Study Purpose**: to determine the clinical and radiologic features of OF pts; reviewed management methods and recurrence patters

Titinchi F, Morkel J. Ossifying Fibroma: Analysis of Treatment Methods and Recurrence Patterns. *J Oral Maxillofac Surg*. 2016;74(12):2409-2419. doi:10.1016/j.joms.2016.05.018

Article 2 Synopsis

- **Method**: performed a retrospective case-series analysis of OF cases from 1976-2014; analyzed management and follow-up for each case, clinical presentation, etc.; developed a surgical protocol based on findings
- **Results**: included 61 cases; Most pts were females <40 y.o., mand. post. affected most, surgical curettage trx used most often
- **Conclusions**: surgical curettage as trx is acceptable with low rate of recurrence; resection used for aggressive, recurrent lesions

Titinchi F, Morkel J. Ossifying Fibroma: Analysis of Treatment Methods and Recurrence Patterns. *J Oral Maxillofac Surg*. 2016;74(12):2409-2419. doi:10.1016/j.joms.2016.05.018

Article 2 Selection

- Limitations: longer follow-up periods needed
- Analyzed Ossifying Fibromas
  - Discussed treatment methods and recurrence patterns
  - Compared excisional versus incisional biopsy

Titinchi F, Morkel J. Ossifying Fibroma: Analysis of Treatment Methods and Recurrence Patterns. *J Oral Maxillofac Surg*. 2016;74(12):2409-2419. doi:10.1016/j.joms.2016.05.018

Article 3

- Juvenile ossifying fibroma of the jaws and paranasal sinuses: a systematic review of the cases reported in the literature.

- **Study Design**: Systematic Review
- **Study Purpose**: compare clinical and radiological features of JOF, trabecular JOF, and psammotmatoid JOF

B.R. Chrcanovic, R.S. Gomez, Juvenile ossifying fibroma of the jaws and paranasal sinuses: a systematic review of the cases reported in the literature, International Journal of Oral and Maxillofacial Surgery, Volume 49, Issue 1, 2020, Pages 28-37, ISSN 0901-5027, https://doi.org/10.1016/j.ijom.2019.06.029.

Article 3 Synopsis

- **Method**: searched databases; examined cases based on pt demographics, lesion characteristics, etc.; analyzed recurrence probability
- **Results/Conclusions**: included 185 studies; JOF lesions had higher recurrence rate after trx by curettage and enucleation only; surgical resection had low recurrence but higher debilitating factors; enucleation followed by peripheral osteotomy should be trx of choice
- **Limitations**: retrospective nature of the studies, lacked some detailed info in certain cases examined

B.R. Chrcanovic, R.S. Gomez, Juvenile ossifying fibroma of the jaws and paranasal sinuses: a systematic review of the cases reported in the literature, International Journal of Oral and Maxillofacial Surgery, Volume 49, Issue 1, 2020, Pages 28-37, ISSN 0901-5027, https://doi.org/10.1016/j.ijom.2019.06.029.

Article 3 Selection

- Analyzed Ossifying Fibromas
  - Discussed how each surgical procedure related to recurrence

B.R. Chrcanovic, R.S. Gomez, Juvenile ossifying fibroma of the jaws and paranasal sinuses: a systematic review of the cases reported in the literature, International Journal of Oral and Maxillofacial Surgery, Volume 49, Issue 1, 2020, Pages 28-37, ISSN 0901-5027, https://doi.org/10.1016/j.ijom.2019.06.029.

Article 4

- Peripheral ossifying fibroma: a case report.

- **Study Design**: Case Report
- **Study Purpose**: presents a clinical example of how POF can occur and where/who is more likely to have this lesion

Yadav R, Gulati A. Peripheral ossifying fibroma: a case report. *J Oral Sci.* 2009;51(1):151-154. doi:10.2334/josnusd.51.151

Article 4 Synopsis

- **Case**: 35 y.o. woman presents with a lump behind her mand ant right side; has gradually grown over 2 yrs
  - Lesion presents as exophytic, pinkish mass in the lingual mand right incisor/canine region
- **Method**: performed excisional biopsy under LA, recall of 9 months revealed satisfactory healing and no recurrence
- **Conclusion**: trx of choice is total surgical excision with meticulous root planing and curettage to prevent recurrence
- Limitations: longer recall period needed, case report

Yadav R, Gulati A. Peripheral ossifying fibroma: a case report. *J Oral Sci*. 2009;51(1):151-154. doi:10.2334/josnusd.51.151

Article 4 Selection

- Case report on peripheral ossifying fibroma
  - Discussed treatment options and recurrence

B.R. Chrcanovic, R.S. Gomez, Juvenile ossifying fibroma of the jaws and paranasal sinuses: a systematic review of the cases reported in the literature, International Journal of Oral and Maxillofacial Surgery, Volume 49, Issue 1, 2020, Pages 28-37, ISSN 0901-5027, https://doi.org/10.1016/j.ijom.2019.06.029.

Levels of Evidence

- ☐ **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)
- ☐ **1b** – Individual RCT
- ☒ **2a** – Systematic Review of Cohort Studies
- ☐ **2b** – Individual Cohort Study
- ☐ **3** – Cross-sectional Studies, Ecologic Studies, "Outcomes" Research
- ☐ **4a** – Systematic Review of Case Control Studies
- ☐ **4b** – Individual Case Control Study
- ☒ **5** – Case Series, Case Reports
- ☐ **6** – Expert Opinion without explicit critical appraisal, Narrative Review
- ☐ **7** – Animal Research
- ☐ **8** – In Vitro Research

Double click table to activate check-boxes

Strength of Recommendation Taxonomy (SORT)

☐	**A** – Consistent, good quality patient oriented evidence
☒	**B** – Inconsistent or limited quality patient oriented evidence
☐	**C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

Double click table to activate check-boxes

Conclusions: D3

- Difficult finding literature specific to POF
- Analyzing excision versus incision reveals excision with adjunctive therapy is most efficient
- Incisional biopsy is less debilitating to the pt
- Overall more studies need to be done on this, specifically POF

Conclusions: D4

- Excisional biopsy was the correct treatment for this case
- Continue monitoring the site at subsequent appointments

Questions?