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THE SILENT INVADER - CEMENTO OSSIFYING FIBROMA: A CASE REPORT

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Abstract: The concept of 'fibro-osseous lesions' of bone evolved over the last several decades to include two major entities: fibrous dysplasia and ossifying fibroma as well as the other less common lesions such as florid osseous dysplasia, periapical dysplasia, focal sclerosing osteomyelitis, proliferative periostitis of garrie and ostitis deformans. Cemento-ossifying fibromas (COFs) are, a subdivision of fibro-osseous lesions characterized by massive deposition of cementum, cementoid substance or calcified material admixed with predominantly fibrous tissue. The cemento-ossifying fibroma is odontogenic in origin whereas ossifying fibroma of bony origin. Here reports a case of a 30-year-old male who came as the history of swelling at the maxillary posterior region causing difficulty in mastication. The lesion was excised and there is no recurrence was observed after 1month and 4th post operatively.

Key words: Fibro-osseous lesions, Cemento-Ossifying fibroma, Cemental tumour.

Introduction: The fibro-osseous bone lesions include a heterogenous disorders group that comprise neoplastic, reactive (dysplastic) or developmental lesions specified by the normal bone replacement by "fibrous tissue" that obtains mineralization. They enclose two significant lesions such as ossifying fibroma and fibrous dysplasia. "COF or Cemento-ossifying fibroma" is a specific type of "benign fibro-osseous tumor" impacting the 70 percent region of craniofacial, practically in the jaw regions [1, 2]. Maximum number of people are detected int their 2nd or 3rd decades in entire lifespan [3, 4]. It is more general in women compared to men within the significant ration of "4:1" [5]. Radiologically, "cement-ossifying fibromas" blatant

in different patterns based on the lesion's mineralization degree. This study presents a critical case of COF in a "thirty years old female patient" within the overlying "right back toot segment" which is an infrequent for its phenomenon. The curettage and excision of the lesion were executed under standard anaesthesia, further follow-up of this matter has been done after 2 months.

Case Presentation: A 30-year-old woman visited the outpatient Division of Periodontics due to swelling of the gums on the buccal and palatal sides of her upper right rear teeth (figures 1, 2). The edema has been there for three months and was gradually becoming bigger. The woman had minor pain and occasional bleeding whenever she washed her teeth. She said she did not use drugs or drink. The patient had a normal medical and dental history.

Clinical examination:

Extra-oral test resulted "facial symmetry" and the protruding skin proclaimed no symptoms of "inflammation". The "regional lymph nodes" were detectable yet were not tender or enlarged. Intraoral test exposed a diffuse, solitary, "pinkish-red" development of nearly 15*7*4mm, restricted to both palatal and buccal gingiva in the "maxillary first premoral segment" to "maxillary first molar part. Certain "lesion" was not capricious nor did it etiolate with "digital pressure", and had unyielding consistency. The local plaque, calculus, and plaque were profuse in the "14, 15, and 16 place.

Blood investigations:

The patient undertakes all "blood test" before the "surgery" and overall readings comprising bleeding time, hemoglobin, clotting time, differential and total leukocytes tallying were in standard limits. The patient was tested negative in terms of "Australian antigen" ("hepatitis B surface antigen") and "human immunodeficiency virus".

Diagnosis:

Provisional detection of "Cemento-ossifying fibroma" has been done. Medically, the distinctive detection comprising "fibrous hyperplasia", "pyogenic granuloma", "peripheral giant cell granuloma", and "peripheral ossifying fibroma".

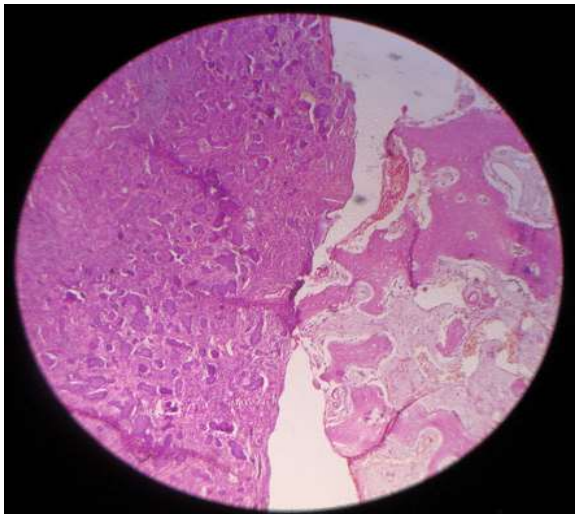
Management

Since the gingival development was dispersed, surgical elimination with the help of "external bevel gingivectomy" has been selected. Under provincial anaesthesia comprising lignocaine along with adrenaline in the ration of 1:80000 concentration, and the ablation has been done with a fifteen numbered "BP blade" at a tip far acuminate to the development accompanied by

cauterization showed in the Figure 3 and 4. The removed tissue was capitulated for further histopathological test. “Adjoining teeth” were later scaled to unfasten local irritants. Rudimentary bone was suctioned to detach “periodontal ligaments”, whereas coe-pact & “periosteum” was placed, showed in Figure 5. The patient was exonerating with some post-operative directives, and advised to “come-back” after seven days for checkup. Furthermore, the patient was provided “cap. Amoxicillin 500 mg” per eight hours, initial one day prior to the operation and carry on with this for a five days post-operative duration. Also, acetaminophen 500 mg has advised to take 3 times in a day until appropriate plaque management process can be resumed.

Microscopic examination

The microscopic test resulted “intense fibroblastic proliferation” along with cementum, bony trabeculae, and “mononuclear cell infiltrate” were edged by fibroblasts. The traits were provocative of “COF” presented in Figure 6.



Follow-up

The patient bestowed for "follow-up" test sever days "post operatively". The "coe-pack" was detaching and the operated region was inundated with standard saline. "The surgical region" seems to be well attenuate and there was no requirement to bandaged the site, at 1 month post operative period, the operative region had fully cured. Moreover, there was no recurrence "evidence of the lesion" at three months and the "patient" was seronegative.

Discussion

COFs were first documented in writing in the 1940s. Epulis, peripheral fibroma with calcifications, peripheral ossifying fibroma, calcifying fibroblastic granuloma, peripheral cementifying fibroma, peripheral fibroma with cementogenesis, and peripheral cemento ossifying fibroma are all names for lesions with similar characteristics. Given the large number of terminology used to characterize fibroblastic calcifying gingival lesions [6], there appears to be substantial controversy about how to classify them.

Although the COF etiopathogenesis is unknown, a source form periodontal ligaments cells has been advised [7]. The cause behind taking into consideration a periodontal source for COF comprises the COF's exclusive occurrence within the gingiva, the contiguity of gingiva to the "periodontal ligament" and the oxytalan fibers present in the "mineralized matric" of the similar lesions [8]. Uncontrolled proliferation of the grown "fibrous connective tissue" is a reciprocation to gingival irritation, "gingival injury", foreign body or subgingival calculus within the gingival sulcus. Periodontal and periosteal membrane's chronic irritation give rise to "metaplasia of the connective tissue" and resulted in "dystrophic calcification" or "bone formation irritation". It has been advised that the lesion might be occurred due to the granulation tissue fibrosis [9]. The clinical formation of tumors is generally as follows. At the beginning stage seronegative, the tumor gradually develops to the position where its overall size can give rise to pain, cosmetic deformities, and functional alteration [10, 11]. This was noticed within our patient who has a huge mass with cosmetic deformity and slight pain. Particular cases of bone destruction and tooth migration have been observed, yet these are not ordinary [12, 13]. In this current context,

the lesion was noticed pink, bony, firm, hard “non-tender” with no physical palpation and no fluctuation.

The influences of hormones might have a crucial role, provided the greater PCOF incidence among females, the enhancing contingency in the 2nd decade and reducing occurrence succeeding the 3rd decade [14]. In a multicentric PCOF isolated case, Kumar et al [8] stated the lesion presence at the edentulous region within a forty-nine years old woman could rise supplemental question relating to the different kinds of lesion pathogenesis. The similar kind of lesion at a dentulous region within a fifty years old woman was noted by Mishra et al [15].

In most cases, "radiographs" will not be able to detect even the most rudimentary bone involvement. Extremely rarely, "superficial bone erosion" [9] is seen. Since there were no visible changes on the radiographs, this may be an early-stage lesion. Medical observation alone may not be sufficient for a definitive diagnosis of COF; a "histopathological test" of the surgical specimen obtained via ablation biopsy is required for a positive identification. The case displayed a full complement of "histopathological COF" hallmarks. Lesion resection, curettage of the osseous floor (periosteum and periodontal ligament), and scaling of the teeth next to the affected area make up the surgical treatment plan. The patient's recovery was routine, and it has been over twelve weeks since they were diagnosed with a tumor. Due to the lesion is well defined and less vascularized, it can be easily separated from the surrounding bone.

Prognosis is recurrence and excellent as well as rare when properly managed. The repetition COF rate is quite high regarding the reactive lesions and intermittence is possibly due to insufficient elimination of the lesion, perseverance of “local irritants” or repeated injury [6].

Conclusion

Under Pathological condition, the periodontal membrane can give rise to cementifying fibroma, an ossifying fibroma or a cemento-ossifying fibroma. Most often, these are benign painless lesions which do not require surgical interventions except for diagnostic purposes. On rare occasions, these tumors can also attain a large size and behave in a very distinctive manner.

References:

1. White SC, Pharoah MJ: Oral Radiology: Principles. Elsevier, Barcelona; 2000. https://iaomfm.com/wp-content/uploads/Books/Oral-Radiology.pdf.
2. Makkad RS, Naidu GS, Nagi R, Sagtani A, Patil S, Shrivastava S: Multiple fibro-osseous lesions of the jaws: a report of a rare case with a literature review. Imaging Sci Dent. 2021, 51:461-6. 10.5624/isd.20210021
3. Pérez García S, Berini Aytés L, Gay Escoda C: Fibroma osificante maxilar: presentación de un caso y revisión de la literatura. Med Oral Patol Oral Cir Bucal. 2004, 9:333-339.
4. Eversole LR, Leider AS, Nelson K: Ossifying fibroma: a clinicopathologic study of sixty-four cases. Oral Surg Oral Med Oral Pathol. 1985, 60:505-511. 10.1016/0030-4220(85)90239-7

5. Deshpande DA, Hemavathy D, Krishnan DS: Peripheral cemento-ossifying fibroma of anterior mandible-a rare case report. Int J Dentistry Oral Sci. 2021, 8:4226-4229. 10.19070/2377-8075-21000861
6. Amit Kumar Mishra et.al., Peripheral cemento-ossifying fibroma: A case report with review of literature. World J Clin Cases. 2013 Jun 16; 1(3): 128–133.
7. Feller L, Buskin A, Raubenheimer EJ. Cemento-ossifying fibroma: case report and review of the literature. *J Int Acad Periodontol.* 2004;6:131–135.
8. Kumar SK, Ram S, Jorgensen MG, Shuler CF, Sedghizadeh PP. Multicentric peripheral ossifying fibroma. *J Oral Sci.* 2006;48:239–243.
9. Kendrick F, Waggoner WF. Managing a peripheral ossifying fibroma. *ASDC J Dent Child.* 1996;63:135–138.
10. Bhaskar SN, Jacoway JR. Peripheral fibroma and peripheral fibroma with calcification: report of 376 cases. *J Am Dent Assoc.* 1966;73:1312–1320.
11. De Vicente Rodríguez JC, González Méndez S, Santamaría Zuazua J, Rubiales B. Tumores no odontogénicos de los maxilares: clasificación,clínicay diagnóstico. *Med Oral.* 1997;12:83–93.
12. Poon CK, Kwan PC, Chao SY. Giant peripheral ossifying fibroma of the maxilla: report of a case. *J Oral Maxillofac Surg.* 1995;53:695–698.
13. Cuisia ZE, Brannon RB. Peripheral ossifying fibroma--a clinical evaluation of 134 pediatric cases. *Pediatr Dent.* 2001;23:245–248.
14. Kenney JN, Kaugars GE, Abbey LM. Comparison between the peripheral ossifying fibroma and peripheral odontogenic fibroma. *J Oral Maxillofac Surg.* 1989;47:378–382.
15. Mishra AK, Bhusari P, Kanteshwari K. Peripheral cemento-ossifying fibroma--a case report. *Int J Dent Hyg.* 2011;9:234–237.