Case Report

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Cemento-osseous Dysplasia: A Case Report.

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Abstract

Cemento-osseous dysplasia is a benign, fibro-osseous lesion that primarily affects the jaws. This case report aims to describe the clinical and radiographic features, as well as the management of a patient diagnosed with cement-osseous dysplasia. Its etiology is not fully understood, but possibly it is related to an unusual bone and cementum response to some local factor. The lesions were predominantly located in the posterior mandible and exhibited a characteristic "cotton-wool" appearance.1 Due to the asymptomatic nature of the lesions and absence of complications such as infection or bone resorption, conservative management was chosen.

Keywords : Cementosseous, dysplastic, benign, Hypercementosis, Radiopaque, curettage

Introduction

Cemento-osseous dysplasia is a benign condition that affects the jawbones. It involves the abnormal growth of fibrous tissue and the formation of cementum-like material in the jawbones. There are three main types of cemento-osseous dysplasia, including periapical cemento-osseous dysplasia, focal cemento-osseous dysplasia, and florid cemento-osseous dysplasia. Periapical cemento-osseous dysplasia typically affects the front teeth in the lower jaw, while focal cemento-osseous dysplasia usually affects a single tooth or a small area of the jaw. Florid cemento-osseous dysplasia is the most extensive form and can affect multiple areas of the jaw. (Beylouni et al., 1998; Neville et al., 2016) Cemento-osseous dysplasia is usually asymptomatic and is often discovered incidentally during routine dental X-rays. It is more common in middle-aged women of African descent, but it can occur in people of any age or gender (Neville et al., 2016).

The exact etiology of cemento-osseous dysplasia is still not fully understood. However, it is believed to be a reactive process that occurs in response to chronic irritation or trauma to the jawbones (Regezi et al., 2017). Some potential factors that may contribute to the development of cemento-osseous dysplasia include Genetic factors, Local trauma or infection, Hormonal factors. The pathogenesis of cemento-osseous dysplasia involves the abnormal proliferation of fibrous tissue and the subsequent deposition of cementum-like material within the jawbones (Glick, 2014). This process typically starts in the periapical region (around the tooth roots) and gradually expands to involve larger areas of the jawbones. The fibrous tissue and cementum-like material gradually replace the normal bone tissue, leading to the characteristic radiographic appearance of cemento-osseous dysplasia (Patton, 2001). Over time, the condition may progress or stabilize, depending on various factors. It's important to note that cemento-osseous dysplasia is a benign condition and does not have the potential to transform into cancer or become malignant (Patton, 2001; Fox& Brennan, 2019).

Case Report

A case of 32 year old female who reported to the department of Oral Medicine and Radiology with the chief complaint of pain in lower right tooth region of jaw since 3-4 months. Patient revealed that pain is sharp, continuous, radiating, aggravates on chewing and it relieves after using medication.

Intraoral Examination

Intraoral Examination

On intra oral examination, patient presents positive tender on percussion of teeth 46 and 47. Carious teeth in relation to 26, 36. Generalised gingival inflammation was seen. Provisional diagnosis was Apical periodontitis in relation to 46 and 47.

Further to evaluate the origin of pain, Radiological investigations were made so, Intraoral periapical radiographs were taken #46 and 47. During analysis of radiographs, the presence of radiopacity with a well-defined border of an associated radiolucent rim comprising of dense radiopacity located in periapical region of #47. The patient was not aware of the intraosseous lesion. The complete examination of oral mucosa was done and revealed that there was no increase in volume and the periodontium was normal.

The differential diagnosis of the lesion was given which included florid cementoosseous dysplasia, condensing periosteitis, hypercementoses, fibrous dysplasia, ossifying fibroma, osteoblasmoma, cementoma and idiopathic focal osteosclerosis. Expert endodontic opinion was taken which due to poor prognosis of the tooth advised extraction with surgical removal of the sclerotic lesion.

In this case, the treatment given was the extraction of the affected tooth followed by curettage of the lesion from region #47 followed by suturing. The specimen was obtained and sent for histopathological examination.

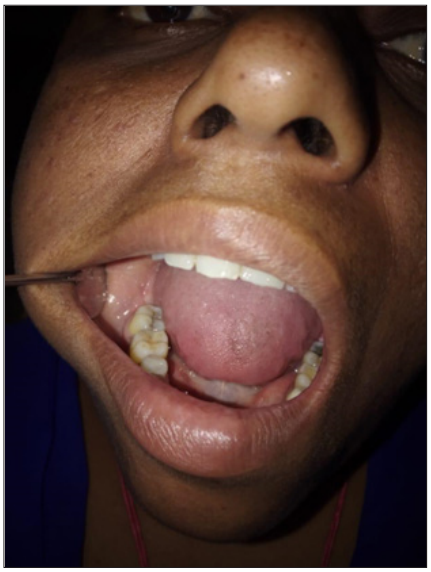
Biopsy specimens were sent to the Department of Oral Pathology, where sections were cut and prepared conventionally, and stained with hematoxylin and eosin. Histological examination revealed multiple small fragments of cementum-like substances characterized by islands of calcified deposits and areas of loose fibrocollagenous stroma; the latter showed evidence of proliferation. The cementum-like substances were mainly acellular in structure; there were no signs of free hemorrhage or osteoclastic activity. A definitive diagnosis of COD was established by means of histopathological examination combined with the radiographic findings, which showed multiple radiolucent and radiopaque lesions in tooth 47.

IOPA #47 Radiopacity seen in periodical region of #47.

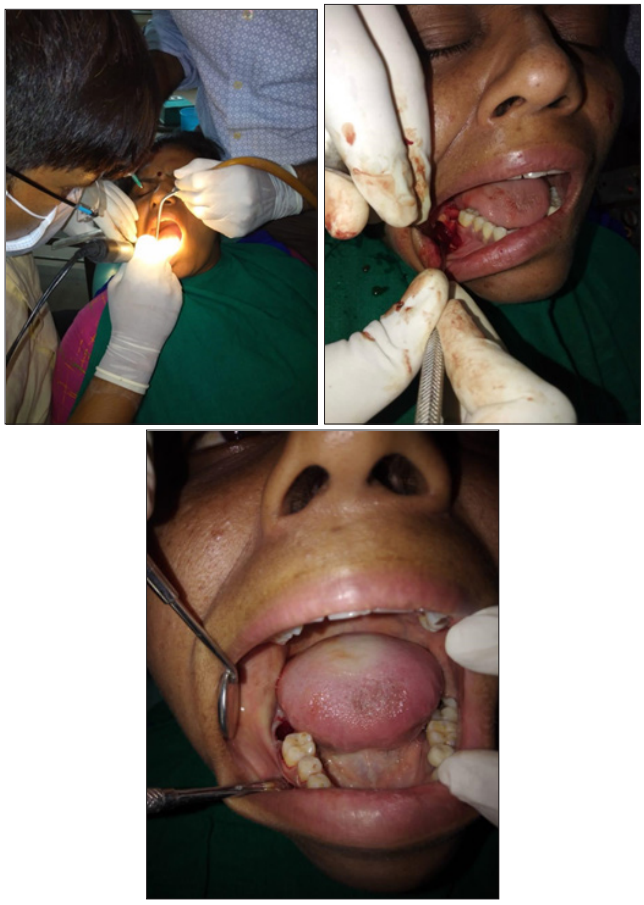
Case Discussion

Cemento-osseus dysplasia is a condition which is generally asymptomatic, but in this case patient presents with pain so treatment is generally required to avoid any further complication (Miller & Musbah, 2018). Periapical cemento-osseous dysplasias are probably the most common fibro-osseous lesions found in clinical practice. Its pathogenesis remains unknown, although it can represent a reactive or dysplastic process (Gomella & Haist, (n.d.)). The dentist must be aware of the appearance of these lesions in clinical practice and have enough knowledge to determine the proper diagnosis, avoiding therefore inappropriate approaches which can compromise the patient's health (Sollecito & Stoopler, 2013).

These are the Most common form of nonexpansile, benign fibro-osseous lesion of the jaws. Usually asymptomatic, noted as an incidental radiographic finding. The associated teeth usually test vital, unlike with periapical infections that render teeth nonvital. Periapical cemento-osseous dysplasia is commonly associated with apices of mandibular anterior teeth. Florid cemento-osseous dysplasia exhibits multiquadrant involvement of jaws. Clinical or radiographic expansion does not preclude diagnosis; bone expansion can occur in the setting of a second lesion, for example, inflammation or simple bone cyst formation (Sollecito & Stoopler, 2013; Alsufyani & Lam, 2011).



Pre-Operative #47



During The Proceedure#47

Obtained after curettage

Post Operative #47 Suturing Done.

Pre-Op Radiograph #47(Left) Post Op Radiograph #47(Right)

Conclusion

Concluding, cemento-osseous dysplasia is a benign condition characterised by the abnormal growth of fibrous tissue and the formation of cementum-like material in the jawbones. While cemento-osseous dysplasia is generally asymptomatic and does not require treatment, it can cause complications such as pain or infection. In such cases, dental professionals may recommend the extraction of affected teeth or other necessary dental procedures. It is important for individuals suspected of having cemento-osseous dysplasia or any other dental condition to consult with a dental professional for a proper diagnosis and appropriate treatment plan (Beylouni et al., 1997; Su et al., 1997). Regular dental check-ups and routine X-rays can help in the early detection and management of cemento-osseous dysplasia.

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