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RESEARCH ARTICLE

A UNIQUE CO-EXISTENCE OF COMPLEX ODONTOMA, SINUSITIS AND SINUS POLYP- A RARE CASE REPORT.

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Abstract

Odontomes are the most common odontogenic tumors, slow growing and asymptomatic in nature. They frequently interfere with the eruption of teeth. This is an unusual case report of a complex odontoma in a 17 year old boy, which resulted in pain and failure of eruption of permanent left maxillary molars. Periapical radiograph revealed large dense calcified mass with impacted left maxillary first molar. A final diagnosis of complex odontoma was made. Later on odontoma was enucleated, sinus polyp was surgically removed. Routine follow-up was done for 6 months. No recurrence was observed. This article reports a unique co-existence of complex odontoma, sinusitis and sinus polyp.

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Introduction:-

Odontome is odontogenic tumor, considered as hamartomas rather than neoplasm.¹ Paul Broca coined term 'odontoma' in 1867. Odontome is defined as 'tumor formed by the overgrowth of transitory or complete dental tissues'. They are composed of enamel, dentin, cementum and sometimes pulp tissue. According to the 2005 World Health Organization (WHO) classification of odontogenic tumors, there are two types of odontomes: compound and complex odontomes.² According to H.M. Worth odontomes are classified based on tissue of origin into: ectodermal origin (enameloma), mesodermal origin (dentinoma, cementoma), mixed (ectodermal and mesodermal) origin (complex composite odontoma, compound composite odontoma, geminated odontoma, dilated odontoma). Odontomes can be found anywhere in both the maxillary and mandibular arches.³

Case History:-

A 17 year old male reported to our department with the chief complaints of pain in maxillary left posterior teeth region, headache, fever, cold and heaviness in left side of face from past 1 week. Past medical history revealed frequent cold attacks with pharyngitis for which he had consulted a physician 6 months ago. On intraoral examination a solitary dome shaped swelling measuring 3 X 3.5 cm in size approximately was noticed in left maxillary posterior tooth region (fig:1). Swelling extended antero-posteriorly from distal of 2nd premolar to till maxillary tuberosity, supero-inferiorly upto maxillary vestibule. Partial obliteration of left buccal vestibule was elicited. Bicortical expansion was noticed in premolar and molar region. On palpation swelling was non-tender, bony hard in consistency. 26, 27, 28 were found to be missing. 24, 25 were tender to vertical percussion. A clinical diagnosis of odontoma, left maxillary sinusitis was suspected. A differential diagnosis list of compound/complex odontoma, ameloblastic fibro-odontoma, odontoameloblastomas and fibrous dysplasia were considered. Periapical radiograph revealed solitary well-defined dense homogenous radiopacity surrounded by radiolucent line in relation to 26, 27, 28, horizontally impacted 26 was present apical to 24, 25 (fig:2). Resorption of apical one-third of 24, 25 was appreciated. Panoramic radiograph revealed circumscribed dense radiopacity in left side of maxilla with

impacted 26, encroaching left maxillary sinus (fig:3). Coronal and axial sections of CT scan of left side revealed presence of well-circumscribed radiopaque mass measuring 2.8X1.9X1.8 cm arising from alveolar process of maxilla extending superiorly into maxillary sinus. Size of the lumen revealed encroaching tumor. The lining of the lumen was also found to be thickened (fig:4,5). Both panoramic and CT sections revealed well circumscribed radiopaque mass in right maxillary sinus which was noticed accidentally. Based on radiographic investigations diagnosis of complex odontoma with left maxillary sinusitis and right maxillary sinus polyp was made. Intentional root canal treatment was performed with 25 (fig:6). Enucleation of odontoma with removal of 26 was done (fig:7). Surgical removal of sinus polyp was done. The specimen was radiographed and sent for histopathological examination (fig:8). Histopathological reports confirmed the diagnosis of complex odontoma and sinus polyp. Patient was recalled for suture removal and evaluation of clinical signs and symptoms (fig:9). Patient reported reduction in headache and heaviness with no fever and cold.

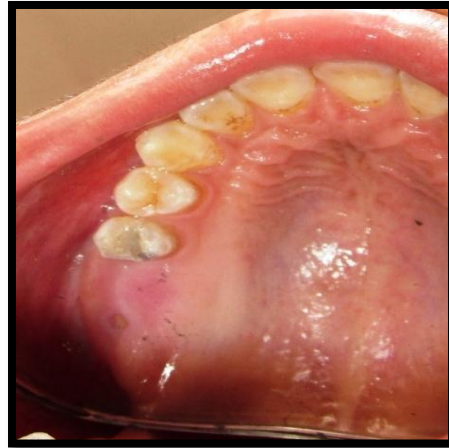


Fig 1:- Mirror image of swelling in left side of maxilla partially obliterating the buccal and palatal cortical vestibule.



Fig 2:- Periapical radiograph of 26, 27, 28 region showing dense homogenous radiopaque mass extending till maxillary tuberosity.

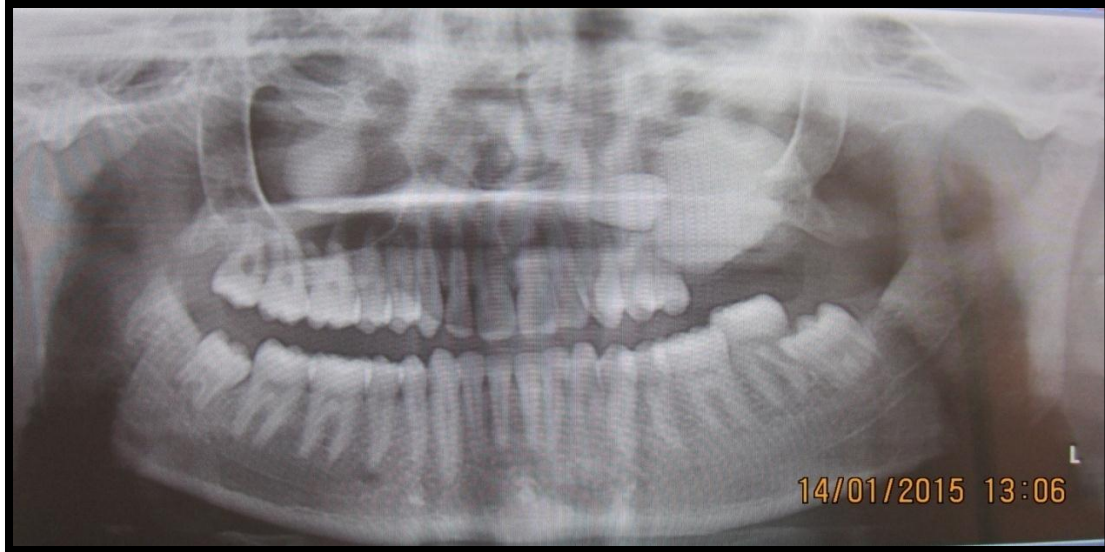


Fig 3:- OPG showing well-defined oval dense homogenous radiopaque mass in 27, 28 region with horizontally impacted 26.

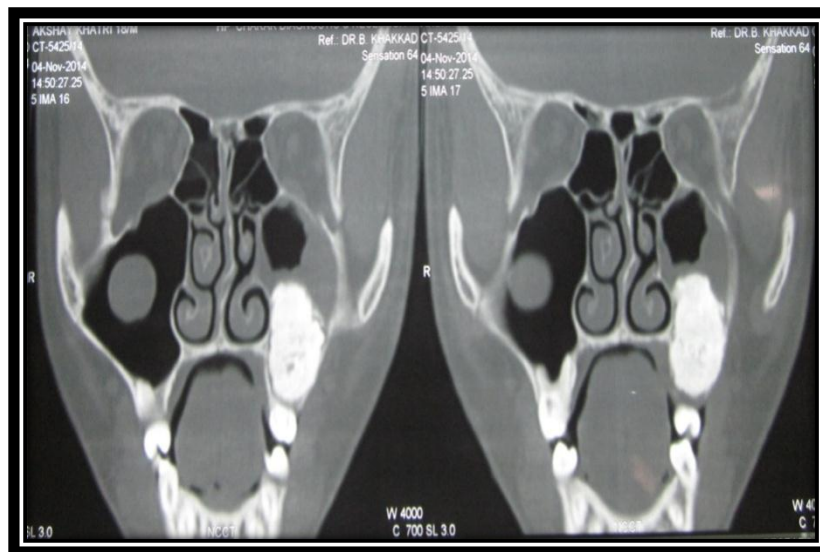


Fig 4:- Coronal section CT showing radiopacity in left maxilla extending into maxillary sinus, and well defined radiopacity in right side maxilla attached to sinus lining.

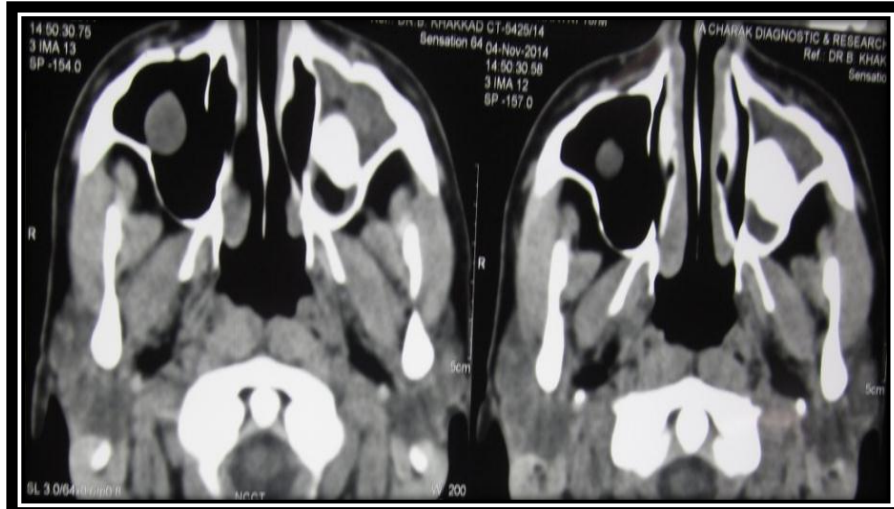


Fig 5:- Axial section CT showing radiopacity reducing maxillary sinus cavity volume.

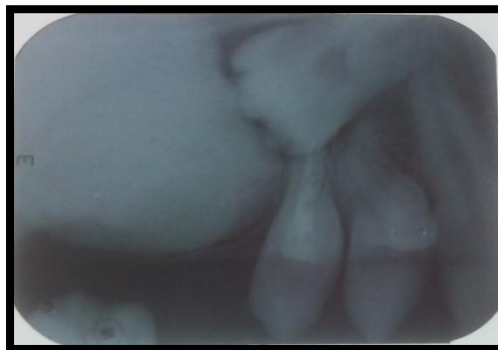


Fig 6:- Intraoral periapical radiograph showing 25 after endodontic treatment.



Fig 7:- Radiograph of specimen.

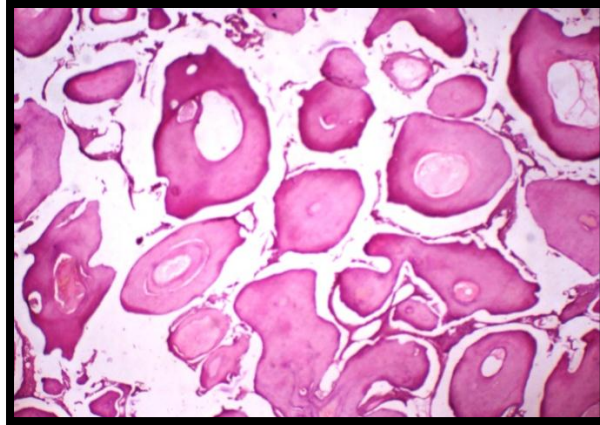


Fig 8:- Photomicrograph of histopathological specimen.



Fig 9:- Follow-up OPG after one month.

Discussion:-

Odontomes accounts for 22% of all odontogenic tumors of the jaws. Based on histopathology (WHO), odontomes can be classified as: (I) complex in which dental tissues are well formed but exhibit a more or less disorderly arrangement; and (ii) compound in which dental tissues are normal, but their size are altered giving rise to multiple small tooth-like structures called denticles.⁴ The etiology of odontome is uncertain, local trauma, infection, growth pressure, hereditary and developmental influences can be possible causes.⁵ Clinically, odontomas are either complex or compound, are classified as: Intraosseous or central — odontomes inside the bone, Extraosseous or peripheral — odontomes in the soft tissue covering the tooth-bearing portions of the jaws, erupting odontome.¹ Odontomes discovered accidentally on routine radiograph.⁶ Odontomes measure from few millimeters to many centimeters. Site predilection for complex odontome is posterior mandible while for compound odontome is anterior maxilla. Complex odontome are less common in comparison with compound type ratio is 1:2. Complex odontome shows slight female predilection range between 5 and 30%. Odontomes can be discovered at any age, occur before the age of 30 (84%), peak incidence in second decade of life with mean age 14 years. In 10–44% of cases odontomes are associated with unerupted teeth. Right side is more commonly affected than left.⁷ Majority of odontomes are asymptomatic, in some cases swelling, pain, suppuration, bony expansion, delayed eruption, impacted and displacement of teeth are also noticed.⁸ In literature cases with severe infection and regional lymphadenopathies have also been reported. Our case reported here is consistent with age of occurrence, but differs with the sex. The location of the lesion is maxillary posterior teeth region which is very rare. Our case presented most of the clinical symptoms as mentioned in literature.

The radiographic features of odontomes are always diagnostic and pathognomic. The lesion consists of well defined radiopacity situated in bone, surrounded by a radiolucent halo. Complex odontomes are seen as irregular radiodense masses with no resemblance to dental structures.⁹

Radiographically ameloblastic fibro-odontomas and odontoameloblastomas resemble odontomes. Radiographs show a well-defined unilocular radiolucency containing variable amount of calcified material with the radiodensity of dental hard tissues. It can be differentiated from the odontoameloblastomas by its well circumscribed nature and usually separates easily from its bony bed.¹⁰

Radiographically, our case revealed presence of dense radiopaque mass with impacted 26. The tumor found to be encroaching the maxillary sinus and obstructed eruption of 26. It has caused absence of 27, 28. Additionally our case is associated with left maxillary sinusitis. Discovery of sinus polyp in right maxilla was absolute accidental finding. This unique co-existing radiographic features distinguishes our case report from other case reports available in literature.

Conclusion:-

In this article, complex odontoma presented at unusual site; i.e. left maxillary posterior teeth region involving maxillary sinus along with sinus polyp in right maxillary sinus. We advise careful clinical examination followed by thorough radiographic investigations. However, radiology played an important role in arriving at a diagnosis in this particular case. We recommend thorough knowledge of the signs and symptoms for early diagnosis, management and to reduce the complications, thus ensuring better prognosis.

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