

ORIGINAL ARTICLE**Odontoma -Clinicopathological Manifestation and their Management**Afreen Nadaf¹, Syed Wakeel², Ajaz Shah³¹Tutor, Department of Oral Pathology, ²Senior Resident, Department of OMFS, ³Professor & HOD, Department of OMFS, GDC & H Srinagar**ABSTRACT:**

Background: Odontomas are the most common odontogenic hamartomas worldwide. Depending on the level of organisation of the tissues inside, these can be differentiated into compound type or complex type. Complex odontomas are commonly found to occur in posterior mandible while compound odontomas are found in the anterior maxilla. **Material and Method:** Present study of odontogenic odontomas diagnosed and treated in oral surgery department GDC Srinagar, their clinical and pathological manifestations. **Results:** Our study comprises of 10 cases of odontomas, complex (2) and compound (8). These were most often diagnosed as incidental findings (6) and often associated with complications like impaction and irregularity of permanent teeth and resorption of roots of permanent teeth. **Conclusion:** Unerupted teeth in maxillary anterior region should raise the suspicion of compound odontoma. Early diagnosis and management of odontoma by the surgical approach via intra oral approach is often uneventful.

Key words: Odontomes, Surgery, Root Resorption

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INTRODUCTION

The term odontoma was coined by Paul Brocha in 1867. By definition odontomas are hamartomas of odontogenic origin and are usually considered as developmental anomalies.¹ Complex odontomas tend to occur more commonly in anterior maxilla.² An odontoma is a growth in which both epithelial cells exhibit complete differentiation with the result that functional ameloblast and odontoblast form enamel and dentin.³ Odontomas are benign tumours of odontogenic origin consisting of enamel, dentin, cementum and pulpal tissue, and constitute for 22% of all odontogenic tumors.⁴ They are characterized by their slow growth and non aggressive nature. During the development of the tumor, enamel and dentin can be deposited in such a way that the resulting structures show an anatomic similarity to normal teeth, in which case the lesion is classified as a compound odontoma. However, when the dental tissues form a simple irregular mass occurring in a disorderly pattern, it is described as a complex odontoma.⁵ Compound odontomas appear more frequently than complex odontomas.⁶ Compound odontomas consist of tooth-like structures that radiographically appear as opacities. Complex odontomas comprise a mixture of odontogenic tissues without dental organization.

Although it is rare, there may be spontaneous eruption of an odontoma into the oral cavity which leads to pain and inflammation of adjacent soft tissues and can be confused with some bony lesion.⁸ Aim of the present study to evaluate the clinical characteristics of odontomas and their management.

MATERIALS AND METHODS

An Observational and prospective study is conducted in department of oral surgery, GDC Srinagar. Study includes patients diagnosed with odontomes by clinical characteristics, radiological appearances and complications associated with them were recorded. Total 10 cases were selected those who reported with odontomes and were removed surgically. Histopathological examination of lesions was done in few cases to rule out bony lesions. Surgical management of odontoma and complications associated with them were also noted.

RESULTS

Out of 10 odontomas 8(80%) were diagnosed as compound and 2(20%) as complex. 6 patients (60%) were males and 4 (40%) females. Average age of all patients was 18 years (ranging from 10 to 48 year). Compound

odontoma of patients average age is 11 years and of complex odontoma average age 38.

Only (2) patients reported symptoms like swelling, pain and discharge, rest were incidental findings on radiographs or clinically (8). They were often associated with impacted teeth or irregularly placed teeth. Only two cases of Odontoma were found in Mandible 20%, as compared to 80% in maxilla and the anterior region of the maxilla was affected in 7 cases (70%), in contrast with the posterior region of maxilla 1 case 10 % and 2 cases in posterior region of mandible 20%.

80% have radiological appearance suggestive of malformed teeth like structure while 20% appear as irregular calcified mass. Root resorption was encountered in 1 patient and associated impacted teeth in 7 patients located in close proximity. All odontoma patients were treated surgically via intraoral approach and impacted permanent teeth were managed by surgical removal or by orthodontic treatment.



Figure 1: Radiographic picture of odontome



Figure 2: Intra oral picture during surgical excision



Figure 3: Biopsy

DISCUSSION

Odontomas are by definition hamartomas of odontogenic origin & are usually considered developmental anomalies.² Odontomas are the most common odontogenic developmental anomalies found in the jaws.⁹ According to World Health Organization (WHO) classification, odontomas can be divided into three groups.

- Complex odontoma: When the calcified dental tissues are simply arranged in an irregular mass bearing no morphologic similarity to rudimentary teeth.
- Compound odontoma: Composed of all odontogenic tissues in an orderly pattern, which result in many tooth-like structures, but without morphologic resemblance to normal teeth.
- Ameloblastic fibro-odontoma: Consists of varying amounts of calcified dental tissue and dental papilla-like tissue, the later component resembling an ameloblastic fibroma. The ameloblastic fibro odontoma is considered as an immature precursor of complex odontoma.

There is no gender predilection in odontomas but considerable controversy exists over gender distribution. Some studies have shown odontomas more common in females than in males^{10,11}, others consider these lesions to be similarly distributed both genders.^{12,13}

Iatrous et al. & Yadav et al.^{14,15} have shown male prediction similar to our study where male female ratio is 3:2.

Several case series have shown that the majority of odontomas were diagnosed in first two decades of life¹² Some studies have reported a correlation between patient age & type of odontoma involved compound lesion being more frequent in younger patients¹⁶, which is in support of our study as average age of all patients was 18 years (ranging from 10 to 48 year). Compound odontoma patients have average age of 11 years and of complex odontoma average age is 38.

In our study odontomas were more frequently found in maxillary anterior region followed by posterior region of mandible. In the studies of Regezi et al. and Kaugars et al.¹⁷ the most common site affected was the anterior region (incisors and canines) of the maxilla, followed by the anterior region of the mandible. Kaugars et al. reported that the incidence of odontomas in the molar region gradually increases with each successive decade of life. Complex odontomas tend to occur more common in posterior mandible³.

There is no root formation in odontoma, its increasing size may lead to the sequestration of the overlying bone and, hence occlusal movement. An increase in the size of the odontoma over time, produces a force sufficient to cause bone resorption¹² leading to pain and inflammation. Similar to our two cases which occur in posterior region of mandible & showed signs of inflammation & pain.

Unerrupted teeth are more common with compound than complex odontoma.¹⁸ in contrast to present series where we found both complex & compound odontomas were associated with unerupted teeth.

Discovery often occur due to radiographic investigation for the cause of non erupted permanent or retained deciduous teeth^{12,19} similar to our study in which 80% were diagnosed as incidental finding associated with impacted teeth

Unerrupted teeth are more common with compound than complex odontoma.¹⁸ in conformity to present series of cases where we found both compound odontomas were associated with unerupted teeth mostly. The etiology of the odontomas is unknown but the genetic factors and environmental causes such as trauma and infection have been proposed.⁸ Lopez Areal has concluded in his study that if injury occurs early in childhood, it is more likely to form odontomas.²⁰ Hitchin²¹ suggested that odontomas are inherited or due to a mutagen or interference possibly postnatal with the genetic control of tooth development. Treatment included surgical enucleation of odontoma preferably via intra orally approach. All patients showed uneventful healing²² and no recurrence were noted.

CONCLUSION

Unerrupted teeth in maxillary anterior region should raise the suspicion of compound odontoma. Early diagnosis and management of odontoma by the surgical approach via intra oral approach is often uneventful.

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