

## Management of Odontoma – Report of 03 Cases

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### Introduction

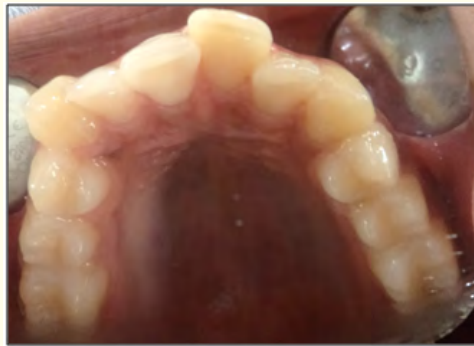
Odontoma is odontogenic tumor defined by the WHO as tumors of epithelium and odontogenic ectomesenchyme with or without formation of mineralized dental tissues [1]. The Broca invented odontoma in 1866 [2]. As he put it “tumors formed by the overgrowth of dental tissues transitory or complete [2]. The majority of odontomas are asymptomatic in nature and are discovered on radiographs. They are often linked to an unerupted or impacted teeth or show evidence of infection, where they appear with signs and symptoms [3]. Odontomas usually have modest growth rate and rarely grow larger than a tooth. Expansion of cortical bone is noticed when their size is large [4].

The aim of this case series is to describe interesting odontoma cases occurring at various regions of the mouth.

### Case Series

#### Case 1

A 14-yearboy reported to the dental clinic with the chief complaint of crowding and overlapping of teeth in his upper and lower anterior region (Photograph 1 & 2). Before commencement of the fixed orthodontic procedure clinical and radiographic examination was done. In the OPG (Photograph 3), a dense, calcified, amorphous, irregularly shaped radio-opaque mass tooth like structure was present around the roots of mandibular left first and 2<sup>nd</sup> premolars. This radio opacity was encircled by radiolucent thin border. This boy was completely asymptomatic, with no soft or hard tissue swelling present. There wasn't any traumatic history. Odontoma was tentatively diagnosed. In the orthodontic treatment plan, removing the calcified mass was planned under local anesthesia performed by an oral surgeon. The patient's behavior during the procedure was classified as definitely positive, according to Frankl Behavior Rating Scale. A mucogingival flap was raised exposing the surgical site (Photograph 4). A bony window was created using a straight hand piece with carbide bur. The radiopaque calcified structure was removed in 3 sections without interfering the overlying teeth (Photograph 5). After inspecting the bony cavity for any remaining calcified structures (Photograph 6), the operative site's flap was closed with 3 interrupted 3-0 black silk sutures (Photograph 7). Postoperative instructions regarding oral hygiene, food, avoidance of physical exercise for 48 hours, and management of pain were given. The patient was called back after a week and showed uneventful healing of the extraction site. He was later referred to the Orthodontic department for executing further treatment plan for crowding of teeth.



**Photograph 1:** Occlusal view of Maxillary Arch



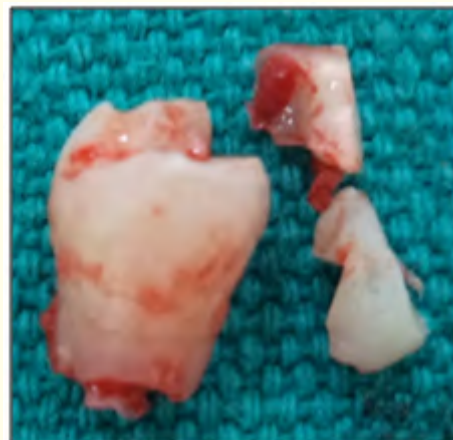
**Photograph 2:** Occlusal view of Mandibular Arch.



**Photograph 3:** OPG showing Odontoma Left side.



**Photograph 4:** Exposure of Odontoma



**Photograph 5:** Removed Odontoma



**Photograph 6:** Surgical site after removal of Odontoma.



**Photograph 7:** Surgical Closure.

### Case 2

15-year-old girl came to the clinic with retained deciduous canine in mandibular right region. On taking history it was found that the tooth was retained for a longer period of 3 years. Extra orally, no abnormalities were detected. Intra-oral examination revealed a diffuse, ill-defined swelling in relation to the attached gingival of the lower right deciduous canine region. On palpation, the swelling was ovoid in form when palpated, approximately 1 x 1 cm in length and breadth, spreading from the mandibular vestibular region from lateral incisor to first premolar. It was bony hard, non-compressible, non-reducible and non-mobile. On OPG examination (Photograph 8), the permanent canine was impacted within the mandible and surrounded by two radio-opaque calcified structures on its coronal portion. The radiographic differential diagnosis included odontoma, ameloblastic fibro-odontoma, and ameloblastic fibro-dentinoma. Under local anesthesia, surgical removal of the calcified mass was planned. The labial mucoperiosteal flap was reflected in the region of right deciduous canine. The bone overlying the labial surface was removed and the calcified mass was uncovered (Photograph 9). The two radio-opaque structures along with the deciduous canine were removed (Photograph 10) without disturbing the underlying permanent canine. The operative site was closed with 2 interrupted 3-0 black silk sutures. Patient was on regular follow-ups for over a year and the permanent right canine was observed to move along the path of eruption.



**Photograph 8:** OPG showing Odontoma 43,44 region – Case 2.



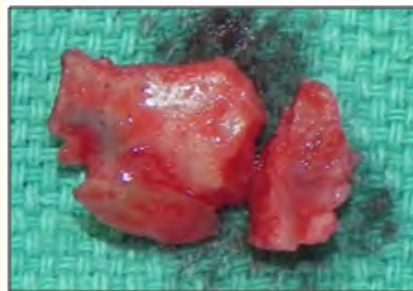
**Photograph 9:** Surgical exposure.



**Photograph 10:** Removed Odontoma.



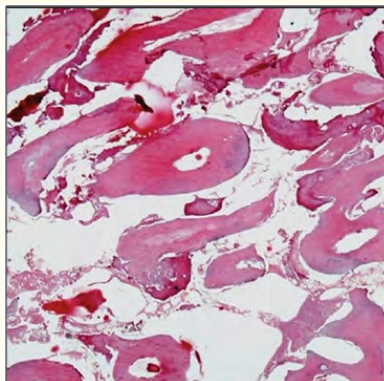
**Photograph 11:** Surgical Exposure Case 3.



**Photograph 12:** Removed Odontoma - Case 3.



**Photograph 13:** Surgical Closure - Case 3.



**Photograph 14:** Photomicrograph showing Complex Odontoma.

### **Case 3**

A 19-year-old male patient reported with pain and swelling in first molar of right side of mandible for 2 months. There was history of similar pain occurring in the same region 2 years back but it was treated by self-medication. On extra oral examination, no swelling was present. Intraorally, an ill-defined bony hard swelling was discovered in 46 region. The swelling was non-compressible, non-reducible and non-mobile. 46 was tender on percussion. Extraction of the 46 and the adjacent calcified structure was done under LA. A mucoperiosteal flap was raised and a bony window created to expose the calcified structure. Clinical diagnosis was odontoma. The surgical site was closed with 3 interrupted 3-0 black silk sutures. Healing was uneventful on follow up for 4 weeks.

### **Discussion**

WHO categorized odontomas into three groups:

#### **Complex odontoma**

When the calcified dental tissues bear no morphologic similarity to the natural tooth and are simply arranged in jumbled mass bearing.



### Compound odontoma

Tooth like structure with all odontogenic component organized in a regular pattern, although not morphologic similar to normal teeth.

### Ameloblastic fibro-odontoma

Composed of calcified dental tissue in varying amounts and dental papilla-like tissue. An immature precursor of complex odontoma is ameloblastic fibro-odontome [5].

Odontoma area symptomatic in majority of cases [2]. Compound odontomas are mostly found in the anterior region of the maxilla, above the crowns of erupting teeth, or between the roots of erupted teeth [6] but in our case compound odontoma was found on the maxillary posterior region. Odontomas can occur at any age, however they are most commonly discovered in the first two decades of life [7]. Another study of 104 cases concluded that the majority of lesions during 11 to 20 years of age [8]. These lesions are frequently unilocular and feature many radiopaque, tiny tooth-like structures known as denticles [9]. Complex odontomas on the other hand, are located in the posterior mandibular region, usually over impacted teeth, and can grow to be several centimeters long [10]. It is the most common (67%) odontogenic tumor which often interferes with the emergence of a permanent tooth [11].

Discovery often occurs due to radiographic investigation for a non-erupted permanent or retained primary tooth [12]. The impacted permanent teeth in children may be let to erupt spontaneously or guided to occlusion via orthodontic traction depending on their age and tooth development [13]. 02 cases out of the three cases mentioned in this paper, were initially diagnosed as complex odontomas because the radiographic study of the lesions revealed a varying amount of anatomically calcified interior components anatomically not similar to small teeth. Histological examination of the lesions following surgical removal later verified this. 01 case was diagnosed as Compound Odontoma. Kaban states that odontomas are easily enucleated and neighboring teeth that may have been displaced by the lesion are rarely affected by the excision because they are often isolated from the lesion by a septum of bone [14]. Routine radiography can detect a growing odontoma, but the lack of calcification can make identification difficult. Differential diagnosis includes periapical cemental dysplasia, chronic focal sclerosing OM, Periapical osteosclerosis & hyper cementosis. It may be distinguished from cementifying or ossifying fibromas by the inclination of the complex odontoma to be associated with unerupted molar teeth & more radiopaque than fibromas. Odontoma may also be discovered at a much younger age than the fibromas [5].

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