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CASE REPORT

Large Erupted Odontoma of the Mandible: Report of a Rare Case

Maryam Niazmand[1], Sepideh Mokhtari[2]

[1]Department of Oral Medicine, Beasat Hospital, [2]Education Development Office, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

Odontoma is the most common odontogenic tumors. Although usually asymptomatic, it is often associated with tooth eruption disturbances. In exceptional cases, the odontoma erupts into the oral cavity. Approximately 20 cases of erupted odontoma have been reported in the literature. In contrast to the usual cases of odontoma, erupted odontoma may be painful with swelling and infection. Here, we report a case of erupted odontoma in the posterior mandible. The second molar was impacted, and its distal root was severely dilacerated. This case seems to be one of the largest erupted odontomas reported in the literature. However, despite its large size, the lesion had no associated symptoms. Of consideration is the association of this case with root dilaceration of the impacted second molar and the presence of maxillary peg laterals. Since the impacted second molar had the anomaly of dilaceration, its chance for eruption was minimal. Therefore, the odontoma was excised and the second molar was extracted.

Key words: Dilaceration, erupted, odontoma, peg lateral

INTRODUCTION

Odontoma is the most frequent odontogenic tumors although it is preferred to refer to it as a hamartomatous lesion, not a true tumor. Etiology of odontoma is not clearly known. However, remnants of lamina between the tooth germs may be an important factor in developing an odontoma. Trauma, infection, family history, and genetic mutation have also been proposed in etiology of this lesion. It has both mesenchymal and epithelial dental elements and is composed of different dental tissues, including enamel, dentine, cementum, and in some cases, pulp tissue. These lesions are more often found in children and adolescents.[1]

Clinically, odontoma has two subtypes: complex or compound. It is also classified as: intraosseous which occurs inside the bone and extraosseous which presents in the soft tissue over the tooth-bearing areas of the jaws.

In exceptional circumstances, spontaneous eruption of an odontoma and its exposure to the oral mucosa may occur. Dilaceration of the impacted tooth in association with odontoma also rarely has been reported in the literature.[2] Here, we present a case of an erupted odontoma and describe the principal characteristics of this lesion.

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Corresponding Author: Dr. Sepideh Mokhtari, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran. Tel.: +98-214-2794241; Fax: +98-21-44047857. E-mail: sepidemokhtary@yahoo.com

CASE REPORT

An 18-year-old female with low socioeconomic status was admitted to our service to fill her anterior teeth. She had no disease in her medical history. Clinical intraoral examination revealed a large mass in the right mandibular area, distal to the first molar. Two maxillary peg-shaped lateral incisors [Figure 1] were also present, and the third molars were missing. The lesion was yellowish-brown in color with a calcified appearance and an irregular porous surface similar to tooth decay [Figure 2]. It measured about 5 cm × 1 cm in diameter and its fragments were easily removable by dental explorer. Panoramic X-ray was requested to establish the precise location and extension of the lesion. The radiographic feature showed a radio-opaque lesion over the impacted second molar [Figure 3]. The distal root of the impacted molar was also severely dilacerated.

Based on these clinical and radiographic findings, a provisional diagnosis of an erupted odontoma was made. Cementoblastoma, osteoid osteoma, cemento-osseous

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lesions, adenomatoid odontogenic tumor, calcifying epithelial odontogenic tumor, and ameloblastic fibro-odontoma were also considered in the differential diagnoses. Cementoblastoma is a well-defined radiopaque lesion with a radiolucent rim attached to the tooth root. Osteoid osteoma typically appears as a well-circumscribed radiolucency (nidus) with a variable degree of surrounding reactive sclerosis. The radiolucent nidus may exhibit some calcification. Cemento-ossifying fibroma and other diagnoses have radiolucent parts in radiographic features.

Surgical resection of the lesion was performed through an intraoral approach, and the lesion was elevated using a periosteal elevator. The impacted molar was extracted followed by suturing. The excised specimen was subjected to histological study.

Microscopic features showed a lesion composed of a disorderly combination of dental tissues in which dentine, enamel, cement, and pulp tissues were clearly identified. Therefore, the diagnosis of complex odontoma was confirmed [Figure 4]. Healing of the site of surgery was uneventful.

Figure 1: Clinical photograph shows the maxillary peg laterals

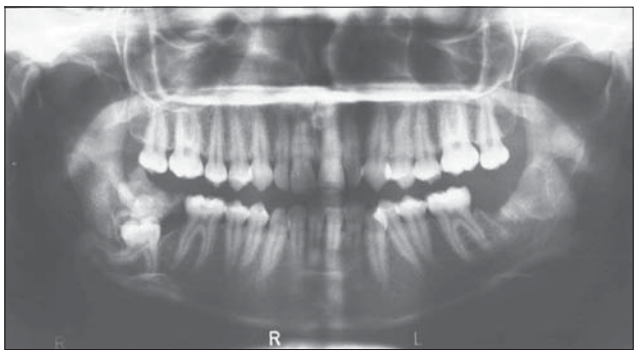

Figure 3: Panoramic view shows a dense radio-opaque lesion over the crown of impacted second mandibular molar with dilacerated root

DISCUSSION

Odontoma, as the most common odontogenic tumor in oral pathology, has two types: complex odontoma and compound odontoma. Compound odontoma is usually over the crowns of unerupted teeth or between the roots of erupted teeth in the anterior maxilla and is twice as common as the latter. Radiographically, the lesions are usually unilocular with radiopaque tooth-like structures known as denticles. Complex odontoma is most common in the posterior area of the mandible, over the impacted teeth. These lesions are unilocular radiopaque masses with a well-defined border. They have no denticles.[3]

Clinically, odontoma is an asymptomatic lesion, but it is often associated with disturbances in tooth eruption. Odontoma often obstructs the path of teeth eruption. Therefore, diagnosis is usually made when routine radiographs are taken to evaluate the cause of delayed tooth eruption. However, three cases of erupted odontoma have been found in the literature without impacted teeth.[4] Surgical removal of the lesion is the preferred

Figure 2: Intraoral view shows eruption of a large complex odontoma

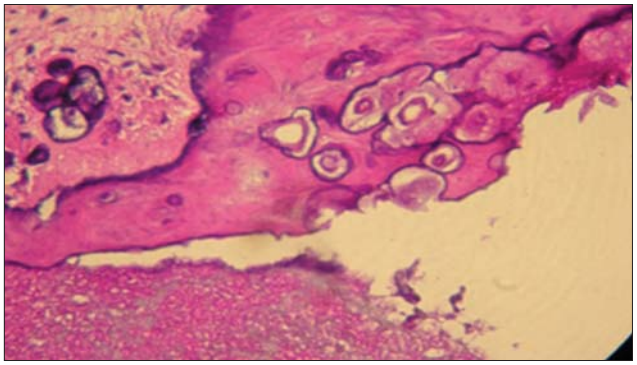

Figure 4: Histopathologic feature of the specimen shows a disorderly combination of dentine, enamel, cement, and pulp tissue

treatment option in most cases, and diagnosis is confirmed by histopathologic examination.[5]

Odontoma is generally an intrabony lesion. However, in exceptional cases, odontoma may spontaneously erupt into the oral cavity. Thus far, >50 cases of erupted odontoma have been reported in the literature. The majority of patients are females and typically in the second and third decades. Some cases of large erupted odontoma measuring 3 cm or more have been reported,[5,6] and this case seems to be one of the largest erupted odontomas reported in the literature.

Tooth eruption depends on the contractility of fibroblasts in the periodontal ligament (PDL). Since PDL is absent in odontoma, mechanism of odontoma eruption is different from tooth eruption. The increasing size of odontoma produces a force that leads to the resorption of overlying bone, occlusal movement, and eruption. The presence of dental follicle could be the other reason for eruption of odontoma into the oral cavity. Dental follicles attract osteoclasts, and subsequent bony remodeling of the jaws occurs. Therefore, a path of eruption is provided for eruption.[1]

Although odontoma is usually asymptomatic, its eruption into the mouth can give rise to more serious conditions as pain, inflammation of the adjacent soft tissues, infection, and suppuration. Facial asymmetry, halitosis, and malocclusion have also been recorded in some cases. In this case, the erupted odontoma, despite its large size, was asymptomatic and since the patient had low socioeconomic status, she had not noticed it in her mouth.

Peg-shaped lateral is the most common form of microdontia, in which the crown appears cone or peg shaped and the root is often of normal length. The reported prevalence varies from 0.8% to 8.4% of the population. Peg laterals have no significance other than cosmetic appearance. Nevertheless, they present some alterations in expression of genes that are involved in tooth morphogenesis. Association between the presence of peg-shaped maxillary laterals and other developmental anomalies such as microdontia, macrodontia, missing teeth, and Talon cusp has been reported.[7] This case presents the rare occurrence of erupted odontoma in association with peg laterals.

Dilaceration refers to an angulation, or a sharp curve, in the root or crown of a formed tooth. The most accepted cause of tooth dilaceration is trauma. A local pathology such as an odontogenic tumor may physically alter the direction of tooth development and could lead to dilaceration. An idiopathic developmental disturbance is another possible cause in cases that have no history of traumatic injury. Sporadic cases of dilacerated permanent teeth have been reported in association with odontogenic tumors such as adenomatoid odontogenic tumor.[8] The coincidence of compound odontoma and root dilaceration is extremely rare, but it has been reported in the literature.[9] In this case, the presence of odontoma caused the mechanical interference with the eruption of the second molar and influenced the direction of root development, leading to dilaceration. Erupted odontoma has also been reported in association with dentigerous cyst.[10]

There is no general agreement on the best management for impacted teeth in odontoma. The treatment options are surgical extraction, fenestration and posterior orthodontic traction, or simple N observation with periodic clinical and radiological controls.[3]

Some investigations state that in many cases, regardless of the degree of root formation, the impacted teeth may erupt spontaneously after removal of the odontoma. Thus, it is better to preserve the impacted tooth after removal of the lesion. If no changes in the position of tooth occurred after 1 year, then the orthodontic treatment is indicated. In case of morphological alterations or presence of cystic lesions, impacted teeth should be extracted.[2] In this case, due to the severe dilaceration, the chance of eruption of impacted molar was low. Therefore, the impacted tooth was extracted.

CONCLUSION

Here, we described a case of erupted odontoma in the posterior mandible. This case seems to be one of the largest erupted odontoma reported in the literature and was associated with tooth eruption disturbances. However, despite its large size, the lesion had no associated symptoms. Of consideration is the association of this case with root dilaceration of the impacted second molar and the presence of maxillary peg laterals. Dentists should be familiar with this lesion and its associated signs and symptoms to be able to choose the best treatment option for patients.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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