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Asymotomatic Complex Odontoma in the Right Posterior Maxilla: A Rare Case Report

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Abstract: ***Odontomas are the most common odontogenic tumors, generally asymptomatic and detected incidentally on radiographs. Complex odontomas are less frequent and often pose diagnostic and surgical challenges due to their irregular structure and location. This case report presents a 17-year-old female with a complex odontoma in the right posterior maxilla, associated with delayed eruption of the adjacent teeth and mild facial asymmetry. Radiographic examination revealed a radiopaque mass with a radiolucent rim, consistent with a complex odontoma. The lesion was surgically excised under general anesthesia via a conservative intraoral approach. Histopathological analysis confirmed the diagnosis. Postoperative recovery was uneventful, with satisfactory healing and no recurrence observed at 6-month follow-up.***

Keywords: Complex odontoma, Maxilla, Odontogenic tumor

1. Introduction

Odontomas are the most common odontogenic tumors and are generally regarded as hamartomas rather than true neoplasms due to their limited growth potential and well-differentiated tissue composition[1]. They consist of dental tissues including enamel, dentin, cementum, and pulp in varying degrees of organization[2]. Odontomas are broadly classified into two types: **compound** and **complex**. Compound odontomas show a resemblance to rudimentary teeth, whereas complex odontomas are formed by a disorganized mass of dental tissues[3]. Complex odontomas are more frequently found in the posterior mandible and are relatively rare in the maxilla[4]. These lesions are typically asymptomatic and are often discovered incidentally during routine radiographic examinations[5]. However, larger lesions may cause swelling, delayed eruption, or impaction of adjacent teeth[6]. Radiographically, complex odontomas appear as a dense radiopaque mass with a surrounding radiolucent halo[7]. The exact etiology remains unclear, but factors such as trauma, infection, genetic mutations, and disturbances in tooth development have been suggested[8].

Surgical removal is the treatment of choice, with low recurrence rates following complete excision[9]. This case report presents a rare occurrence of a complex odontoma in the right maxilla of a 17-year-old female patient, emphasizing the importance of early diagnosis and management.

2. Case Report

A 17-year-old female reported with a complaint of pain in her upper right back tooth region since 20 days. The pain was sudden onset, moderate intensity, non-continuous and non-radiating in nature. The pain aggrevates on having food and relieved on taking medications. It was not associated with pus discharge. The patient visited a local doctor a week before where they were given some medications. Intra oral examination revealed, vestibular obliteration and sever tender on palpation noted in relation to 15,16 and distal to 16. Erythematous and ulcerative gingiva noted. Orthopantomogram revealed complete maxillomandibular complex with incomplete set of teeth, a thick radio-opaque mass noted distal to 16 and a deeply impacted 17 noted superior to the radio-opaque mass, maxillary sinus floor elevation noted and impacted 28, 38 and 48.

Surgical treatment carried out under General anesthesia, under universal aseptic protocol. Left side nasal intubation done uneventfully. Locsal infiltration given at soft tissue incision site containing 2% lidocaine with 1:80,000 adrenaline. Crevicular incision given from 12-17 along with anterior releasing incision mesial to 12 followed by full thickness mucoperiosteal flap reflection carried out(fig-1) and encapsulated odontoma mass exposed, which was scored and and excised into pieces(fig-2). The deeply impacted 17 extracted(fig-3). Fresh bone bleeding noted at margins followed by PRF placed(fig-4). Hemostasis achieved and wound closure done by using absorbable suture material (3-0 vicryl)(fig-5). Analgesics and antibiotics were prescribed. Recalled after 10 days and follow up was done at 6th month and one year. Post- operative OPG taken at 6th month shows no recuurance(fig-6)

Pre- Operative photo

Pre- Operative -OPG

Figure 1

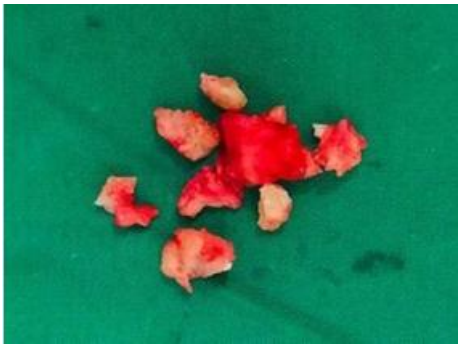

Figure 2

Figure 3

Figure 4

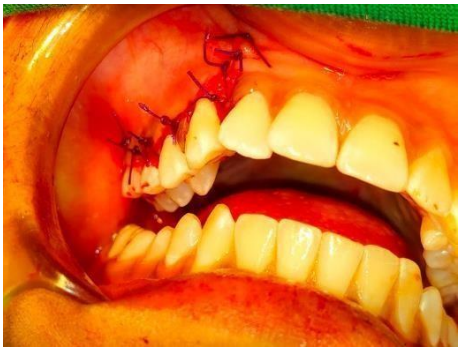

Figure 5

Figure 6: Post-OP-OPG

3. Discussion

Odontomas are the most common odontogenic tumors, often regarded as hamartomas rather than true neoplasms due to their limited growth and well-differentiated dental tissues[1]. They originate from odontogenic epithelium and ectomesenchyme, and typically contain enamel, dentin, cementum, and pulp in varying degrees[2]. The World Health Organization (WHO) classifies them into compound and complex types[3]. Compound odontomas resemble multiple small teeth, while complex odontomas consist of a disorganized mass of dental tissues with no anatomical resemblance to a tooth[4].

Complex odontomas are more commonly found in the posterior mandible, and their occurrence in the posterior maxilla is relatively rare[5]. They are generally asymptomatic and often discovered incidentally during routine radiographic examinations. However, they may occasionally present with swelling, delayed eruption, or displacement of adjacent teeth[6]. In the present case, a 17- year-old female presented with a swelling in the right maxilla, and an orthopantomogram (OPG) revealed a well-defined radiopaque mass with a surrounding radiolucent halo, suggestive of a complex odontoma.

The OPG remains a valuable diagnostic tool for evaluating odontomas, especially in routine clinical settings where advanced imaging may not be accessible[7]. In this case, the OPG provided sufficient diagnostic information regarding the location and extent of the lesion. Surgical excision was performed under general anesthesia, which is often preferred in young patients or for lesions located in difficult anatomical regions.

Histopathological examination confirmed the diagnosis by

revealing an irregular admixture of enamel, dentin, and pulp tissue[8]. Postoperative follow-up is essential to monitor healing and rule out recurrence. A follow-up OPG taken six months after surgery showed complete healing with no signs of recurrence.

Early identification and complete surgical excision of complex odontomas are crucial to prevent complications such as tooth impaction, malocclusion, or facial asymmetry[9]. Although rare in the maxilla, complex odontomas should be considered in the differential diagnosis of radiopaque jaw lesions, especially in adolescents presenting with delayed eruption or swelling.

Conflicts of Interest: Nil

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