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## Case Report

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## NUMEROUS CALCIFYING HYPERPLASTIC DENTAL FOLLICLES – A COMPLICATED ODONTOMA IN A YOUNG PATIENT “AN UNUSUAL CASE REPORT

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### Abstract

The most prevalent odontogenic tumours are odontomas. They are divided into two categories: Compound Odontoma and Complicated Odontoma. Complicated odontoma is a rare tumour among them. This tumour can grow to be quite large, causing bone expansion and facial asymmetry. Aside from that, these tumours are asymptomatic and are usually detected by a radiological examination. Children and young age group generations are mostly affected. We present a case of complicated mandibular odontoma in an adult female. The tumour was surgically removed under general anaesthesia.

**Key Word-** Odontomas, Compound Odontomas, Complicated, Odontogenic tumours.

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### INTRODUCTION

An odontoma is a tumor made up of hard tooth-like tissues such as enamel, dentine, and cementum, all in different amounts and stages of growth. Odontoma was defined by Gorlin and Goldman as “A tumor composed of dentin and enamel in which pulp and cementum are also present.” It is the most common odontogenic tumor. The World Health

Organization recently classified odontoma into two categories: complicated odontoma and compound odontoma.<sup>1, 2</sup>

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The compound odontoma is made up of odontogenic tissues that are laid down in a regular manner and the resulting structure resemble to a tooth. The lesion is referred to as "complicated" odontoma when the tooth components are less structured and tooth-like features are not developed.<sup>1, 3, 4, 5</sup>

The complicated odontoma is most commonly found in the posterior region of the jaws and is usually detected in the second decade of life. The incisor-cuspid area is where complicated odontomas are most common.<sup>6,7</sup> The majority of complicated odontomas are small, typically only a few millimetres in diameter, and only a small percentage of them grow large enough to cause jaw deformity. Because of its distinctive radiographic appearance, the compound odontoma rarely causes a challenge in differential diagnosis, even at the middle stage. Secondly, the intermediate stage of a complicated odontoma might be misinterpreted for fibro-osseous lesions, calcifying odontogenic cysts, fibrous dysplasia, and chronic osteomyelitis.

Odontomas are uncommon in middle-aged people.<sup>8</sup> The goal of this research is to describe an odontoma in a 30-year-old woman and explain the diagnosis, presentation, and treatment options.

## CASE REPORT

A 30-year-old woman reported to Department of Oral and Maxillofacial Surgery with a one-month-old swelling in the right mandibular angle. Extraoral examination revealed mild facial asymmetry.



Fig 1 Intraoral Clinical Picture Showing Root Stumps On the Affected Site

On intraoral examination expansion of the buccal cortical plate in the right mandibular angle region was found, and also the absence of a third molar was noted. In the right mandibular angle, a panoramic radiograph showed a massive, narrow, radiolucent halo surrounds a confined radiopaque lesion on Orthopantomogram. At the anterior edge of ramus, a misplaced third molar was seen. A provisional diagnosis of complicated odontoma was made. Because there was a risk of pathological fracture, Erich Arch bar wiring was planned intraoperatively.



Fig 2 A Narrow, Radiolucent Halo Surrounds A Confined Radiopaque Lesion On OPG

Under general anaesthesia and naso-endotracheal intubation, a vestibular intraoral incision reaching from the mesial side of the first molar to the external oblique line of the ramus was created. To expose the buccal cortical plate of the affected mandibular angle, a subperiosteal dissection was performed. After buccal guttering, the lesion was revealed and excised piece by piece with a bur. The extraction of root stumps 47 and affected 48 was done.



Fig 3. Intra Operative Surgical Site after Odontoma Removal.

During the excision of the lesion, great care was taken to avoid causing any pathological fractures. Intraoperative radiographs were used to rule out any pathological fractures and to look for any remaining tissue in the cavity. Iodoform dressing was applied in the cavity after thorough curettage of the cavity. Hard tissues were removed and sent for histological analysis,



Fig 4. Shows Chunks Of Removed Tissue And Extracted Root Stumps

Which revealed irregular masses of enamel and dentine that did not resemble the shape of teeth.

Antibiotics and analgesics were provided to the patient for 5 days after surgery, and she was recalled for follow-up every 7 days. The iodoform dressing was changed and radiographs were obtained at each follow-up visit.

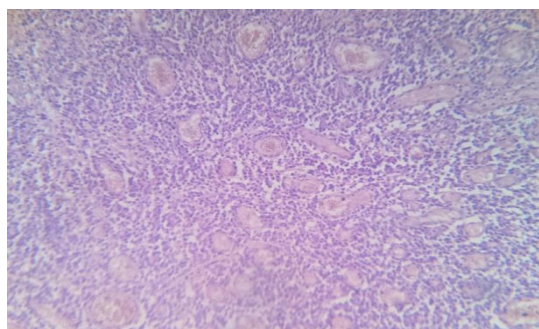


Fig 5: Shows numerous calcifying dental follicle with irregular masses of enamel and dentine.

The diagnosis of complicated odontoma was confirmed by histopathological analysis. For a period of 6 months' time, the patient was under observation. Post-surgery, an OPG demonstrated satisfactory bone healing with no recurrence.



Fig 6: Six-Month Postop OPG Demonstrated Satisfactory Bone Healing With No Recurrence

There were no abnormalities in the intraoral healing. The areas supplied by the inferior alveolar nerve on the right side had neither analgesia nor paraesthesia following surgery.

## DISCUSSION

Complicated odontoma is a common odontogenic tumour that appears as a hard, painless mass that rarely exceeds the tooth's diameter. On radiographic examination, the majority of these lesions are detected by accident. Impacted permanent teeth and edema are common signs and symptoms. Budnick discovered that impacted teeth are involved in 61% of cases.<sup>9</sup>

Complicated odontoma has an idiopathic aetiology. Some suggest that the reason is trauma or infection. Odontomas, according to Hitchin, are caused by genetic mutations. Odontomas have also been linked to a number of heritable diseases, including Gardner's syndrome.<sup>11</sup> In our case; the patient did not have any syndromes that could have contributed to the odontoma's formation. Also, complicated odontomas are extremely uncommon to recur.

Complicated odontoma appears on radiographs as a radiopaque mass that does not resemble tooth anatomy. Sheets of immature tubular dentin with encapsulated hollow tooth-like features characterise the complicated odontoma histologically. In complicated odontoma, ghost cells are particularly common. A cautious surgical excision of the lesion is the preferred therapy.



Pathological fractures of the mandible (PFM) are fractures produced by an underlying pathologic defect in the mandible, and they account for less than 2% of all mandible fractures. Any bony lesions (cysts or tumours) that alter the bone and weaken the mandible are predisposing factors. PFMs are rarely caused by benign tumours, such as odontomas. The removal of the third molar, a fully dentate patient, concomitant pathology, an impacted tooth, and the angle region were all recognised as prevalent risk factors. To prevent PFM, intraoperatively we have planned for Erich Arch bar but due to our expertise surgeon PFM was prevented.

To bear masticatory loading forces and prevent pathological fracture, the lower border of the residual mandible should be maintained to at least 1 cm vertical height.<sup>10-12</sup> There is a lot of debate on how to treat PFMs caused by iatrogenic causes. Despite the fact that certain surgeons advise open reduction and fixation with miniplates and monocortical screws for iatrogenic mandibular fractures, the majority of published publications claimed that closed reduction was the preferred treatment option.<sup>7, 13</sup> In our situation, the surgeon's decision to carefully remove the odontoma in increments rather than in its whole was a

judicious one, as no pathological fracture occurred.

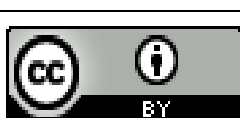
## CONCLUSION

Odontomas are common in general; however complicated odontomas are uncommon in comparison to other odontomas. Complicated odontomas should be surgically removed since they are characterised by cortical plate expansion and can lead to pathological bone fractures if left untreated.

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