I. INTRODUCTION

Odontomas are the most common odontogenic tumors which are considered to be hamartomatous growth rather than a true neoplasm [1]. In 1867, Paul Broca first describe the term odontoma [2]. It is composed chiefly of enamel and dentin along with variable amount of cementum, and pulp [1]. They usually arise from epithelial and mesenchymal components of dental apparatus which are able to produce all of the above [3].

Odontomas are encountered at any age, mostly evident in the 1st and 2nd decades of life, with a female predilection, especially involving the anterior tooth bearing segment of maxilla. Clinically, odontomas are characterized by small, slow enlarging growth resulting in expansion of underlying bone [4].

Based on the radiographic features, WHO categorized odontomas into 2 types: 1) compound and 2) complex [3].

Complex odontomas are less common than the compound variety in the ratio of 1:2 [3], [6]. They usually appear radiopaque having similar radiodensity as that of tooth, which is surrounded by a narrow radiolucent rim in association with an unerupted tooth [1], [5].

Histologically, compound odontoma consist of multiple structures resembling small, single-rooted teeth, contained in a loose fibrous matrix, whereas complex odontomas...
demonstrated disorganized masses of matured tubular dentin, interposed by circular spaces filled by enamel matrix. Complex Odontomas are benign in nature so they are treated by local surgical excision, and the prognosis is excellent. This case report presents an unusual case of complex odontoma on the left posterior region of mandible in a female child [3].

II. CASE REPORT

A 8 year old female patient from the semi urban area, reported to the Department of Oral and Maxillofacial Pathology, Guru Nanak Institute of Dental Sciences and Research, Kolkata, with the chief complaint of progressively enlarging hard swelling involving the left lower dentoalveolar region since last 6 months.

Extraorally, a solitary swelling was evident on the left lower border of the face with mild facial asymmetry (Fig. 1).

Intraoral examination revealed the presence of a fairly demarcated, smooth-surfaced, dome shaped, swelling measuring approx. 3×1.5 cm, involving the buccal vestibule of permanent molars and extending up to the retromolar area, causing obliteration of the vestibular depth. On palpation the swelling was hard in consistency (Fig. 2).

Panoramic radiograph revealed the presence of a solitary, well circumscribed, conglomerated radiopaque mass measuring approximately 2.5×2.5 cm surrounded by a thin rim of radiolucency with missing 36, over the erupting pathway of unerupted 2nd molar. The Multislice Spiral Computed Tomography (CT) scan of mandible revealed an expansile lesion involving left body of mandible and preventing the eruption of 2nd molar.

Fig. 3. (a) OPG revealed well circumscribed, conglomareted radiopaque mass in the left side of mandible, overlying the erupting pathway of unerupted 2nd molar, and (b) The multislice spiral computed tomography (CT) scan of mandible revealed an expansile lesion involving left body of mandible and preventing the eruption of 2nd molar.

Based on all these clinical and radiological findings, a provisional diagnosis of complex odontoma was made.

Local surgical excision of the mass had been performed along with removal of 37 and send for histopathological evaluation.

The sections stained with H and E revealed the presence of disorganized mass of dentin intermixed with small focal areas of enameloid like material. At places, there is presence of tall columnar odontogenic epithelial cells resembling preameloblasts and centrally located stellate reticulum like cells. Loose myxoid connective tissue stroma is also noted (Fig. 4).

The overall histopathological features were suggestive of “Complex Odontoma”.

III. DISCUSSION

Odontomas are the most common benign mixed odontogenic tumour [1], [10] and is accepted as hamartomas rather than a true neoplastic condition. Various studies reported that trauma, infection, family history and genetic mutation may be related to the etiopathogenesis of an odontoma [5]. Odontomas are usually encountered in the 1st and 2nd decades of life with a slight predilection for females [7], [8], [10]. Most frequently complex odontoma occur in the posterior molar region of mandible [9], [11]. Being asymptomatic in nature it is usually discovered by routine radiographic examination [1]. Odontomas are usually small but at times they exceed the size of a tooth wherever they are located. However, large odontomas up to 6 cm or more, may lead to severe expansion of underlying jaw bones with consequent facial asymmetry [12]. The present case revealed a mild expansile swelling of jaw involving the buccal vestibule of permanent molars extending up to the retromolar area of left side with concomitant facial asymmetry. Thus, the
above mentioned clinical findings were in accordance to that of the observations made by the previous authors.

The conventional radiographic presentation can give two cleartcut entities, that is, compound and complex. The compound variety, appears in the form of conglomerated tooth like structure being bordered at periphery by a thin rim of radiolucency. While the complex type revealed the presence of a calcified mass with varying radiodensity, surrounded by a narrow radiolucent rim at the periphery too [10].

The case under discussion radiologically revealed solid well circumscribed, conglomerated mass of radiopacity measuring approx 2.5×2.5 cm occupying the left side of mandible, together with radiolucent rim at the periphery. These radiological features were similar to the reports of various other researchers.

Histopathologically, complex odontoma is composed of disorganized conglomerates of enamel, dentin, cementum, and pulp tissue [10], [13], [14]. In our case too, the lesion, are comprised of a mixture of dental tissues, forming a single homogeneous mass of immature dentin, enamel, cementum, and pulp like tissue arranged in a random fashion.

The treatment and management of the odontoma includes surgical enucleation. The fibrous capsule facilitates removal of the lesion from the surrounding bone, and the frequency of recurrence is minimal, the prognosis is excellent [3].

IV. CONCLUSION

Complex odontoma is usually associated with unerupted tooth and can also impede eruption of permanent tooth thus interfering with arch-forms or occlusion which necessitates their timely diagnosis and management. Hence thorough knowledge is essential for their proper treatment planning. In addition to conventional radiography, CT scan is better imaging facility to evaluate complex odontoma.

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REFERENCES

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