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MULTIPLE IMPACTED SUPERNUMERARY TEETH IN A NON SYNDROMIC PATIENT: A RARE CASE REPORT

Oral & Maxillofacial Surgery

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ABSTRACT

Supernumerary teeth is a condition where patients have an increase in the number of teeth which can be associated with non-syndromic or syndromic phenotypes. Supernumerary teeth in the premolar region occur more often in the mandible.Premolar hyperdontia can be single, multiple or associated with a syndrome such as Gardner's syndrome. Depending on the population under study, premolar supernumerary teeth have a prevalence ranging from 0.01 to 1 percent. . Several ideas have been proposed to explain its genesis, including the tooth-germ dichotomy, phylogenetic theory, atavism (evolutionary throwback), hyperactivity of the dental lamina, and genetic and environmental variables. The dental lamina's localized hyperactivity is the most well recognized explanation. Its existence may result in consequences including periodontitis, dilacerations, the production of dentigerous cysts, neighboring teeth root resorption, occlusive disturbance, and lack of aesthetic appeal. Here we report a case of multiple impacted supernumerary premolar teeth in a non syndromic patient.

KEYWORDS

Impacted Supernumerary Teeth, Non Syndromic Patient, Hyperdontia

INTRODUCTION

The process of tooth growth and development depends on numerous genetic, systemic and local factors which can lead to the appearance of certain irregularities in both the dentitions-deciduous and permanent[1]. Hyperdontia is an anomaly of an excessive number of teeth. [2].

The occurrence of non-syndromic multiple supernumerary teeth is less than one percent on evaluation of all cases with hyperdontia, which in turn has a low prevalence in and of itself[1]. This can occur in either dentition but in permanent dentition it is five times more common. In males, they happen about twice more frequently with a male to female ratio of 1: 0.4[2]. They are more common in maxilla compared to mandible[3].

Supernumerary teeth have several theories explaining their etiology and pathophysiology, even though the exact cause is still unknown[4]. The universally approved hypothesis is the localized hyperactivity of the dental lamina[1].

It may have a regular shape (Denttes supernumeraria) or a distinct appearance (Dentes accessoria). Often hypoplastic in nature. It can cause food retention, disruption in eruption and make it more challenging to practice good oral hygiene. Frequently, cystic formation can develop around these teeth[2].

In order to reduce risks and maximize surgical outcomes, these cases must be planned with the patient's age, financial situation, anticipated objectives, and utilization of modern technologies all taken into account.

We hereby report a case of multiple impacted supernumerary teeth in the lower right and left lingual region irt 34,35 and 45,46 respectively discovered as an incidental radiographic finding in a 20-year-old male patient.

CASE REPORT

A healthy 20 year old male patient of Asian ethnicity reported with a chief complaint of lower misaligned teeth. The patient had no relevant medical history. On intraoral examination there was a completely erupted lingually placed supernumerary teeth irt 35 and partially erupted supernumerary lingually placed teeth irt 34.

OPG revealed impacted supernumerary tooth irt lingual aspect irt 34,35. It also revealed an impacted supernumerary tooth irt 45 and 46

CBCT reveals Impacted supernumerary tooth irt 34,35 which appears to be lingually placed (soft tissue impaction). The crown appears to be beyond the alveolar crest. The crown of the supernumerary tooth is impinging on the middle third of root of 34 and 35.Inferior alveolar nerve canal is in close proximity with the supernumerary tooth. Supernumerary tooth noted irt 35, 36 appears to be lingually placed. The crown appears to be beyond the alveolar crest. The crown of supernumerary tooth is impinging on the lingual aspect of root of 35 at the level of CEJ. Both the supernumerary tooth has a single root morphology with closed apex[Fig 1].

The supernumerary tooth is situated in a vertical direction between 45 and 46 lingually with a mesial rotation and is in close proximity to the roots of 45 and 46. The tooth measured 17 x 6.4 x 5.5 mm in greatest dimensions. Crown is directed occlusally and is 2.6mm below the alveolar crest. Breach present in the lingual cortical plate overlying the crown. Single conical root apex to the buccal cortical plate is approximately 1.8mm. Distance from the apical third of root to the inferior alveolar nerve canal is 3.2mm[Fig 2].

As a part of treatment plan, surgical removal of all 3 supernumerary teeth was planned under local anaesthesia.

Inferior alveolar nerve block along with lingual block was given in the third quadrant. Crevicular incision was given and teeth exposed. Bone guttering was done on the medial aspect of the tooth followed by its removal using Cryer's elevator. Curettage and bone filing done. Saline irrigation done. Hemostasis achieved and closure done. Postoperatively the patient was given oral antibiotics and analgesics.

After 10 days the contralateral supernumerary teeth were surgically removed. Inferior alveolar nerve block along with lingual block was given in the fourth quadrant. Crevicular incision given from 41 to 47. Full thickness mucoperiosteal flap reflected and bone was exposed

[Fig 3]. Bone guttering done using round bur to expose the crown of the teeth. Guttering on the mesial aspect of 46 was done using round bur and a point of elevation was achieved. Using a periosteal elevator the teeth was elevated and removed[Fig 4]. Curettage along with saline irrigation done. Hemostasis achieved. Sling sutures placed was placed. Postoperatively the patient was given oral antibiotics and analgesics. Follow up was done for a period of 1 month with no evidence of any post operative complications.

DISSCUSSION

Most supernumerary tooth do not exhibit any symptoms and are mostly impacted, so they are found as incidental radiological findings. Initial screening radiograph that determines supernumerary teeth in all quadrants is a panoramic radiograph. It is possible for non-syndromic cases to be associated with supernumerary teeth. Gardner's

syndrome, cleidocranial dysplasia, Fabry-Anderson syndrome, and cleft lip and palate are supernumerary associated syndromes.[6]

The majority of supernumerary teeth are idiopathic. Reports have also indicated autosomal recessive transmission pattern, autosomal dominant non-syndromic, and relationship with the X chromosome. Multiple affected or erupted supernumerary teeth is rare and is typically linked to certain hereditary disorders.[7]

There is still uncertainty regarding the exact cause of origin of supernumerary teeth. Nonetheless, a number of theories have been proposed to account for their existence. The tooth-germ dichotomy, phylogenetic theory, hyperactivity of the dental lamina, genetic and environmental factors are some of these theories.[8] The most widely accepted theory is a localized hyperactivity of the dental lamina.[9]

It is uncommon for people without a syndromic disease to have supernumerary teeth.

[10] According to Yusof et al premolar region of the mandible is the favoured location for many supernumerary teeth to form in the absence of any syndrome.[11] Our case also supported this observation.

Supernumerary teeth are usually asymptomatic. Complications such as periodontitis, dentigerous cyst formation, dilacerations, root resorption of neighbouring teeth, occlusive disturbance, and lack of aesthetic can occur. [12]

According to Soin et al. [13] removal of the teeth is recommended due to the complications it might lead and poor prognosis.

Even though conventional radiographs would help in providing sufficient details, it fails to predict the relationship of the supernumerary tooth with vital structures like the adjacent teeth, nerves etc. Therefore, advanced imaging techniques like CT and CBCT scans are indicated in the preoperative evaluation as a three-dimensional view of the tooth/teeth could be visualised which would assist in surgical planning[6]

It can either be managed surgically or by observation with periodic follow ups. . The tooth can be retained and periodically checked if it is free of periapical or pericoronal radiolucency or shows close proximity to important structures like nerves or the maxillary sinus such that removal could cause damage to the nerves or an oroantral communication.[6]

Although the surgical procedure is quite extensive, it would produce excellent outcomes that do not cause any cosmetic, residual or functional impairment[14]

FIGURES

FIGURE 1

FIGURE 2

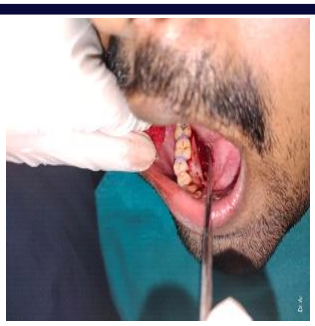

FIGURE 3

Different opinions exist on the optimal time to remove supernumerary teeth. While some advocate delaying surgery until the roots of the neighbouring incisors have fully formed as it may devitalise, damage or malform adjacent teeth, others argue that doing so could prevent abnormal eruption pattern, eruption potential and loss of space etc. If there is no pathology, supernumerary teeth do not need to be removed immediately. Erupted supernumeraries should be extracted except in cases where it is needed to be retained. It can either be removed alone or along with immediate orthodontic traction of a unerupted tooth. Surgery was the recommended course of treatment, followed by orthodontic therapy. It was shown that there would be no effect either on the root length or shape when fixed orthodontic forces were delivered to the immature teeth. Regardless of the closure of the root apices, apical resorption was proportionate to the duration of treatment. The issues brought on by the presence of extra teeth included crowding, delayed eruption of permanent incisors, rotation, and displacement, which required their surgical extraction and orthodontic realignment of misaligned permanent teeth. If orthodontic forces are applied on immature apices , apex may close early. The most common complications are diastema, loss of vitality, displacement, impaction and malocclusion[15]

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