Case Reports

MULTIPLE ERUPTED MAXILLARY ANTERIOR SUPERNUMERARY TEETH: REPORT OF TWO CASES SHOWING TYPICAL AND ATYPICAL FEATURES OF SUPERNUMERARY TEETH

Olaiya Ogidan, BDS, MS,* A.T. Mahdi, BDS, FDSRCS, MSc, DOrthRCS**

المقدمة :

تنتج الأسنان الزائدة أثناء مرحلة التخليق وتشكل براعم الأسنان وغالبًا ما تكون في منطقة الفك العلوي الأمامي وتسبب أحيانًا انطمار أو تأخر في البزوغ وأحيانًا أخرى عدم استقامة الجذور وتأخر تكوّن القواطع المجاورة لها كما قد تسبب أكياس حول التاج وتم عرض حالتين لمريضين بأربعة أسنان زائدة وجميعهم قد تم بزوغهم بالكامل كما في الحالة الأولى. وقد وضحت الحالة الثانية بزوغ ثلاثة منهم مع الأسنان الدائمة.

الحالة الأولى :

مريض من نيجيريا يبلغ من العمر ثمانية عشر عامًا يعاني من سوء أطباق فكي من الدرجة الأولى مع كامل الأسنان الدائمة ووجود أربعة أسنان زائدة بمنطقة القواطع الأمامية للفك العلوي (درنية الشكل) وأوضح العرض الشعاعي عدم اكتمال جذور اثنين منهم.

الحالة الثانية :

مريض سعودي عمره سبعة عشر عامًا مصاب بسوء اطباق فكي من الدرجة الأولى أيضًا وأسنانه الدائمة مكتملة ما عدا اضراس العقل ووجود ثلاثة أسنان زائدة مخروطية الشكل بين القواطع العلوية ووجود سن زائدة في منطقة قبة الحنك.

المناقشة :

قد تتشابه الأسنان الزائدة مع مجاوراتها من الأسنان وقد تختلف في الشكل. فالشكل الوتدي لهذه الأسنان تبزغ عادة في منطقة قبة الحنك بالنسبة للقواطع الدائمة بينما المخروطي منها سواء بزغ بشكل طبيعي أو كان مقلوبًا مسببًا عدم انتظام القواطع بالفك وقد يبزغ في منتصف قبة الحنك. وبالرغم من تأخر تكوّن الأسنان الزائدة فإن بزوغ الأسنان يكون طبيعيًا ويعزى ذلك لوجود مساحة كافية بالفك العلوي في النيجيرين وعمر متقدم حتى التاسعة عشرة (الحالة الأولى) مما أعطى الفرصة للبزوغ الطبيعي لتلك الأسنان.

أما الحالة الثانية فقد أوضحت كل الصفات الثابتة للأسنان المخروطية الزائدة من حيث شكلها وأماكن تواجدها وبزوغها وكذلك ما تسببه من مسافات بين القواطع المجاورة لها وحتى ولو كانت منطمرة ومقلوبة ضمن الفك.

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* Assistant Professor, Division of Orthodontics, Department of Preventive Dental Sciences, Faculty of Dentistry, King Abdulaziz University, P.O. Box 1540, Jeddah 21441, Saudi Arabia

** Consultant Orthodontist, Assir Dental Center, P.O. Box 1393, Abha, Saudi Arabia

Address reprint requests to: Dr. O. Ogidan

الملخص:
قد تبزغ الأسنان الزائدة مع بقية الأسنان الدائمة عندما تكون المساحة الفكية كافية اضافة إلى الوقت الكافي كما في هاتين الحالتين وقد تشكل الأسنان الزائدة عدم بزوغ جارتها من القواطع أو خلق مسافات بينهم. إذن فإن تشخيص مثل هذه الحالات مبكرًا يسهل بها لا يدع مجالاً للشك سبل العلاج الناجح.

Two cases of multiple erupted maxillary anterior supernumerary teeth showing typical and atypical characteristics of supernumerary teeth in this region with implications for early diagnosis are presented.

introduction

Supernumerary teeth result from disturbances during the initiation and proliferation stages in dental development.[1-3] The maxillary incisor region is the site most frequently involved with supernumerary teeth.[1-4] The supernumerary tooth present in the midline or just lateral to the midline is referred to as mesiodens.[5-7] Supernumerary teeth in the maxillary incisor region cause local disorders, such as impaction, delayed eruption, displacement of the permanent incisors, development of dentigerous cyst, resorption of adjacent roots, or the supernumerary teeth may fail to erupt or erupt into the nasal cavity.[5-14] Other disorders associated with supernumerary teeth in the maxillary incisor region include root dilaceration and delayed root formation.[8,10] Two cases are presented in which there are four supernumerary teeth in the maxillary anterior, all fully erupted in Case 1 and three fully erupted in Case 2 together with normal permanent teeth.

Case 1

An 18-year-old Nigerian male presented with a complaint of "too many teeth" in the anterior region of the maxilla. Clinical examination showed a Class 1 malocclusion with all teeth erupted. There were three supernumerary teeth palatal to 2|12 and the fourth one was between the 2| and 1|. The 1| was rotated mesio-palatally and 5| was placed palatal to 4|. All four supernumerary teeth were of tuberculate shape [Fig. 1]. An upper anterior occlusal radiograph showed no impacted teeth. The roots of the supernumerary teeth were well developed although the apices of those palatal to 2|1 were still open [Fig. 2].

Case 2

The patient was a 17-year old Saudi male presenting with a similar complaint of "too many teeth" in the upper anterior region as in Case 1. Clinical examination revealed a Class 1 malocclusion with all teeth present and erupted apart from the third molars. Three peg-shaped erupted supernumerary teeth were present, each one palatal to the 1|1 and the third located in the midline between the 1|1. Upper central incisors were spaced, slightly rotated mesiopalatally, distally inclined and proclined, with the lateral incisors palatal relative to 1|1 [Fig. 3]. The lower arch was unremarkable with only very mild crowding anteriorly. In occlusion, the overjet was increased to 6 mm and a complete overbite (100%) with the paiatally displaced supernumeraries in crossbite with the lower incisors. The upper right premolars were in scissors-bite relationship with the lower. An upper anterior occlusal radiograph [Fig. 4) showed the three erupted supernumeraries with fully formed roots. A fourth inverted but similarly peg-shaped (conical-shaped) supernumerary tooth was discovered impacted in the palate but in the midline.

Figure 1. Occlusal view of model of Case 1.

Figure 2. Upper anterior occlusal radiograph of Case 1 showing no impacted tooth.

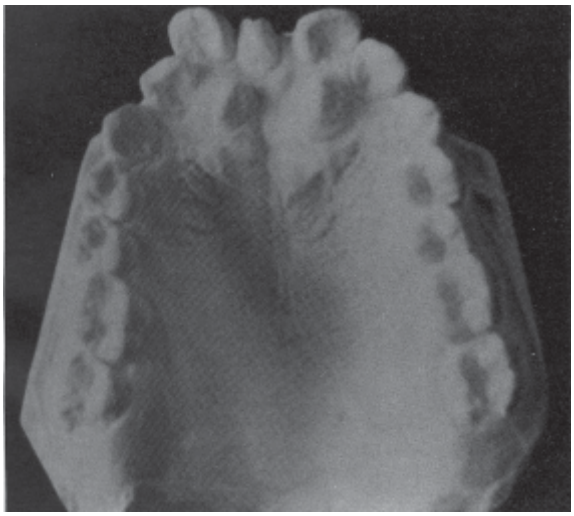

Figure 3. Occlusal view of model of Case 2.

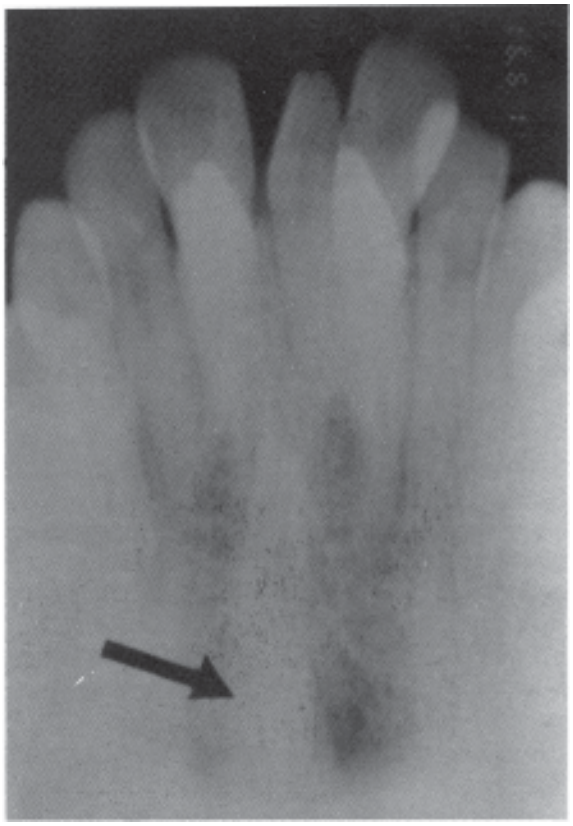

Figure 4. Upper anterior occlusal radiograph of Case 2 showing the 4th inverted but conical-shaped supernumerary tooth impacted in the midline (arrowed).

Discussion

Supernumerary teeth in the premaxillary region have been divided into two main classes: one containing teeth of normal morphology known as supplemental teeth and the other of abnormal shape. The latter class has been further categorized into the conical type (peg-shaped) and the tuberculate type.[15] The tuberculate supernumerary tooth seems to occur most frequently palatal to the upper central incisor and to be later in its development than the conical tooth, it also tends to delay or prevent the eruption of the corresponding permanent central incisor, and is rarely seen erupted in childhood.[15] In contrast, the conical-shaped supernumerary tooth does not usually affect the eruption of the adjacent permanent incisors but may cause their displacement.[15] This displacement may involve the crown, the root or the whole tooth.[16] The conical supernumerary may be non-inverted

or inverted. When non-inverted, it may remain unerupted palatal to the permanent incisors. When inverted, it may point posteriorly towards the nose or may even erupt into the nose.[8,16,17]

Matching the above characteristics with the cases presented, the supernumerary teeth in Case 1 showed the features of the tuberculate type while those in Class 2 exhibited the features of conical supernumerary teeth. In Case 1, the root apices of the supernumeraries palatal to 2| and 1| were still open suggesting that they were typically late in development than the normal permanent incisors. All supernumerary teeth were atypically erupted contrary to the usual behavior of this type of supernumerary.

However, Di Biase[18] had stated that provided space was available in the arch, there could be spontaneous eruption of these supernumerary teeth. It is therefore plausible that the combination of age (with the patient presenting at an older age) and the availability of space would account for the eruption of both the supernumerary and the permanent incisor teeth in Case 1.

It has been shown that the maxillary arches of Nigerians are broad,[19,20] thereby providing more space in the arch to accommodate the erupting teeth. Case 2 exemplified all typical features of the conical type of supernumerary teeth in their shape, location, eruption, displacement and spacing of the adjacent permanent incisors and the impaction of the inverted supernumerary tooth. The impacted supernumerary tooth was left in place and the patient was instructed to come for periodic examination.

Supernumeraries and the associated normal permanent teeth could be seen erupted where there is adequate space in the arch especially in patients presenting at an older age. Supernumerary teeth may result in the non-eruption, displacement and spacing of adjacent permanent incisors. Therefore, early diagnosis of the presence and determination of the correct location of these teeth in the maxillary anterior region are essential to identify disturbances in eruption of individual teeth and treat them accordingly.

References

1. Bergstrom K. An orthopantomographs study of hypodontia, supernumeraries and other anomalies in school children between the ages of 8-9 years. An epidemiological study. Swed Dent J 1977;1:145-57.
2. Bodin I, Julin P, Thomsson M. Hyperodontia I. Frequency and distribution of supernumerary teeth among 21,609 patients. Dentomaxillofac Radiol 1978;7:15-17.
3. Luten JR. The prevalence of supernumerary teeth in primary and mixed dentition. J Dent Child 1967;34:346-53.
4. Humerfelt D, Hurlen B, Humerfelt S. Hyperdontia in children below four years of age. A radiographic study. ASDC J Dent Child 1985;52:121-24.
5. Weber FN. Supernumerary teeth. Dent Clin North Am 1964;7:509-17.
6. Jarvinen S. Supernumerary and congenitally missing permanent upper anterior teeth in 7-year-old Finnish children. A radiological study. Proc Finn Dent Soc 1976;72:99-102.
7. Huang WH, Tsai TP, Su HL. Mesiodens in the primary dentition stage: A radiographic study. J Dent Child 1992;59:186-89.
8. Nazif MM, Ruffalo RC, Zullo T. Impacted supernumerary teeth: a survey of 50 cases. J Am Dent Assoc 1983;106:201-04.
9. Kaler LC. Prevalence of mesiodens in a pediatric Hispanic population. ASDC J Dent Child 1988;55:137-38.
10. Zilberman Y, Malron M, Sbteyer A. Assessment of 100 children with supernumerary teeth in the premaxillary region. ASDC I Dent Child 1992;59:44-47.
11. Primosch RE. Anterior supernumerary teeth assessment and surgical intervention in children. Pediatr Dent 1981;3:204-15.
12. Brin I, Ziiberman Y, Azaz B. The unerupted maxillary central incisor: review of its etiology and treatment. ASDC J Dent Child 1982;49:352-56.
13. Tay F, Pang A, Yuen S. Unerupted maxillary anterior supernumerary teeth: report of 204 cases. ASDC J Dent Child 1984;51:289-94.
14. Lustmann J, Bodner L. Dentigerous cysts associated with supernumerary teeth. Int J Oral Maxillofac Surg 1988;17:100-02.
15. Foster TD, Taylor GS. Characteristics of supernumerary teeth in the upper central incisor region. Dent Pract Dent Rec 1969;20:8-12.
16. Profitt WR. Contemporary orthodontics. 2nd ed. St. Louis: CV Mosby Co, 1992:405.
17. Mills JRE. Principles and practice of orthodontics. 2nd ed. Edinburgh:Churchill Livingstone, 1987:49-52.
18. Di Biase DD. Dental abnormalities affecting eruption. The eruption and occlusion of teeth. Poole DFG and Stack MV eds. London/Boston; Butterworths, 1975:156-68.
19. Richardson A, Ana JR. Occlusion and malocclusion in Lagos. J Dent 1973;1:134-39.
20. Mack PJ. Maxillary arch and central incisor dimensions in a Nigerian and British population sample. J Dent 1981;9:67-70.
21. Foster TD. A textbook of orthodontics. 3rd ed. Oxford:Blackwell Scientific Publ, 1990:160.