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remain an enigmatous.
Yildirim et al Believe that lack of the eruptive force in combination with crowding ، and rotation of tooth buds resulted in multiple impactions in permanent teeth. on the other hand ، impaction of deciduous teeth may be solely to the lack of eruptive force.(4)

Such case cause serious problem in term of diagnosis ،treatment options ،time and outcome .The age of discovery and start of treatment، stage of root formation، the degree of dilacerations، number of impacted teeth ، position of the tooth، the distance of the tooth from the occlusal plane and the relation of the tooth to the inferior dental canal are factors reported to increase treatment time and complexity .
To achieve optimum function and aesthetics، an interdisciplinary co-operation between the oral surgeon، orthodontist، prosthodontist and pedodontist is required for the management of such case .

CONCLUSION

In conclusion، radiographic examination may reveal multiple impactions in clinical absence of teeth. Lack of eruptive force and rotation of tooth buds may cause multiple impactions.
Since most of the cases of multiple impactions are associated with syndrome Additional investigation may be necessary to exclude their presence .
However، to date، this discussion remains unclear. Impacted teeth that are asymptomatic ،not associated with lesions and do not affect the dentition should be followed rather than removed.
Regarding the case a multidisciplinary cooperation discuss the treatment options available that include surgical exposure of impacted teeth followed by orthodontic movement، but this option rejected by orthodontist due to extreme difficulty to arrange the teeth as well as the time and coast .
Extraction followed by removable appliance was rejected by oral and maxillofacial team as it leads to weakening of the jaw other surgical complication .
The decision was made to leave the impacted teeth in situ with making alveoloplasty that are followed by removable appliance

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Fig2: OPG : demonstrate multiple impaction with agenesis of two teeth : In maxilla there were 11 completely impacted teeth : In mandible there were 12 completely impacted teeth

DISCUSSION

Only a few cases of non-syndrome multiple impacted teeth have been reported (24:25). When there is a clinical absence of a number of teeth: and the history indicates that they have not been extracted: partial anodontia and tooth impaction can be considered. Radiographic examination: however: may reveal multiple impacted teeth and partial anodontia can be rejected. ((25:26:27)

Complete lack of eruptive force can be the reason for unerupted tooth when the number of teeth is present radiographically. Although this is debatable. Since few workers have debunked this claim (9). Although some other features were discovered on our cases beside multiple impacted teeth: all features of any syndrome couldn't be diagnosed.
The finding of pale: dry and thick skin: broad: flat: fleshy and coarse nose: head hair and body hair were obviously thick and coarse. Mild pitting of the palm and sole .The nails of the toes were hypo plastic bilaterally: these feature beside multiple impaction may raise the suspension of the certain syndrome like : Gardner syndrome: Hypothyroidism: Mucopolysaccharidosis: Nonherediatary pathoses such as endocrine disorders: Down syndrome

The diagnosis of the case is the primary & essential part of management and the diagnosis was done by exclusion.
Down syndrome was excluded from the 1st appointment .Gardner syndrome & Mucopolysaccharidosis was excluded upon referral to GIT specialist and dermatologist. Hypothyroidism & Nonherediatary pathoses such as endocrine disorders was also excluded :after exclusion of the other syndrome that may have such presentation the diagnosis for the case under examination was "a Non-Syndromic nonheridatory Hypodontia with Concomitant Multiple Impacted Teeth "
The Delayed or arrested eruption is probably caused by diminished resorption of bone and of primary teeth and /or rotation of tooth bud was claimed for the multiple impaction as OPG reveal no physical barrier in the eruption path with relatively normal sized jaws and teeth.

In a retrospective study Babu et al (24) stated that the exact cause and the significance of multiple impacted Supernumerary teeth

Ophthalmological and neurological examination of the patient revealed no pathology or any abnormality .
Intelligence was subjectively normal.
Pulmonary function test was normal ، chest x –ray was normal .
X-Ray of long bone of arm and legs reveal no anomalies
Clinical and radiological examination of the TMJ and large joint reveal no abnormality or pathology
Liver function test was done without abnormality
Thyroid function test T3،T4،TSH was at lower border line of normal
A complete blood count and routine blood biochemistry tests were normal
Intraoral examination of the patient، the oral soft tissues were unremarkable and histopathologic evaluation of gum and underling bone reveal no abnormal finding .
The patient was found to be in the permanent dentition phase with the following teeth being almost erupted as seen in Fig 1 :
RU B(right upper B) RUE (right upper E) 7 9 10 12
24 26 and 25 only penetrating the gum
The OPG demonstrate multiple impaction and as follow Fig2
In maxilla there were 11 completely impacted teeth
In mandible there were 12 completely impacted teeth
Note : All erupted teeth are malformed and malpositioned and 2 congenital absence (hypodontia)
No other family members were known to have similar abnormalities.

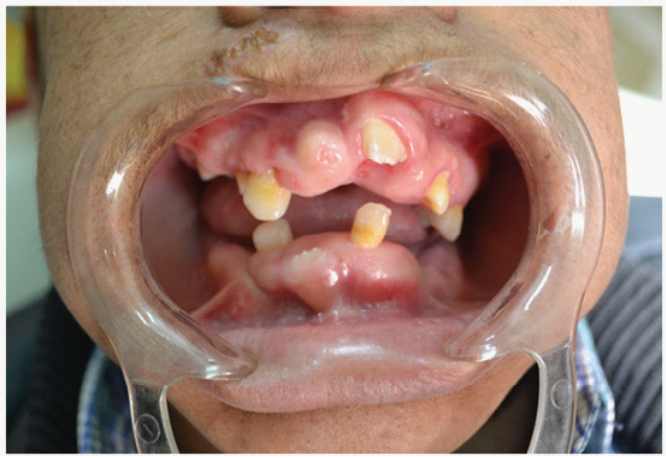

Fig1: Oral finding ، RU B(right upper B) RUE (right upper E) 7 9 10 12
24 26 and 25 only penetrating the gum

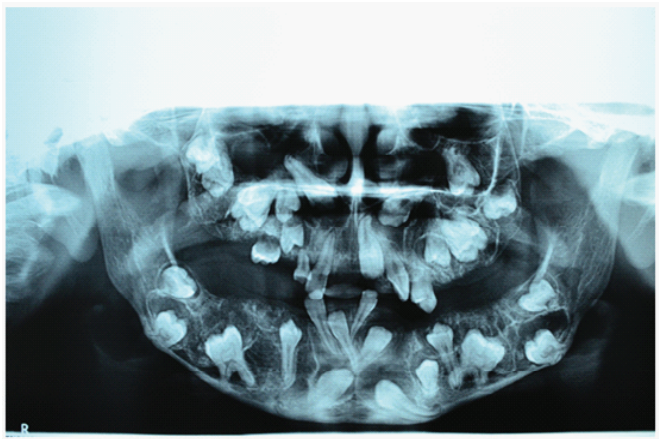

Table 1; syndromes associated with tooth impaction and hyperdontia. (21،22،23)

Some systemic prenatal and postnatal disorders, diseases and syndromes causing to tooth impaction	Some syndromes associated with hyperdontia
Cleido cranial dysplasia	Apert syndrome
Gardener syndrome	Crouzon syndrome
Down syndrome	Curtius syndrome
Aarskog syndrome	Ehler-Danlos syndrome
Zimmerman – laband syndrome	Fabry-Anderson Fucosidosis
Noonan 's syndrome	syndrome
GAPO Syndrome	Hallermann-Streiff syndrome
Osteoglophonic dysplasia	kippel-Trenaunay –Weber
Osteopathia striata	syndrome
Osteopetrosis	Nance-Horan syndrome
Progeria	Oral –Facial- Digital syndrome
Singleton- merten syndrome	Sturge-Weber syndromr
Yunis-varon syndrome	Tricho-Rhino-Phalangeal
Nonherediatary pathoses such as	syndrome
endocrine disorders.	Angio-osteohypertrophy
Mucopoly saccharidoses.	Craniometaphy- seal dyslasia

Case presentation :

In February 2014، 21 year old male patient referred to Tikrit University /College of Dentistry / department of oral and maxillofacial surgery with respect to the failure of eruption of most of upper and lo - er teeth with abnormal alveolar bone appea - ance . In his medical history، it was detected that he was born at the beginning of nine months of gestation ، with normal delivery and without complication to both the new born infant and mother.

During the clinical examination at the age of 21، a height of 159 cm and a weight of 63 kg were registered. The circumference of the head was measured as 62 cm. None of these measurements deviated from the norm.

Facially، the skin appear pale، dry and thick ، the patient had a broad، flat، fleshy and coarse nose. Normal ear appearance and textures . Head hair and body hair were obviously thick، coarse.

The examination of the hands and feet showed mild pitting of the palm and the sole respectively .the nails of his toes were hypo plastic bilaterally .

No other family members were known to have similar abnormalities.

Clinical and Radiological evaluations of the clavicles، vertebral skeleton، skull and chest proved to be normal.

GIT examination reveal no abnormality، Liver and spleen were not palpable.

absence of a single factor does not interrupt the event of eruption (8) but defect in some genes may be responsible for this condition،
EGF-R، CSF-1،CSF-1R.IL-1.IL-1R. c-Fos. NFB. MCP-1. TGF- B 1 .PTHrP. Cbfa-1 now called Runx 2 OPG. RANK1،are the major eruption molecule.
stellate reticulum is the site for few molecules residing in the dental follicle(9،10)while most eruption defects are part of genetic syndrome، they can be also be non familial. As in the case in primary failure of eruption PEE ، in PEE localized failure of eruption of permanent teeth exists with no other systemic involvement candidates genes for primary failure of eruption would be the molecules that function solely in the pre- eruptive phase and that are expressed in cells of the dental follicle and surrounding structures، hence it is likely that genes like CSF-1،NFB،and c-fos are the genes responsible for the eruption defect. (9،11).
According to a review by Bishara(12)the causes of tooth impaction are divided into generalized and localized factors. The common causes are usually localized؛ lack of space for eruption، prolonged retention or early loss of the deciduous tooth، abnormal position of the tooth bud، the presence of alveolar cleft، ankylosis، cystic or neoplastic formation، alveolar or dental trauma، and dilacerations of the root(12). As for the general factors، the most common syndrome for tooth impaction is cleidocranial dysplasia (CCD)(13،14). CCD is a rare inherited form of skeletal dysplasia، and the most obvious dental abnormality of CCD is prolonged retention of deciduous teeth with failure in the eruption of permanent teeth.(13،14)
Although impaction of the multiple permanent teeth occurs less frequently than that of a single tooth، multiple impactions cause serious problems in terms of treatment time and outcome. Age at the start of treatment، the degree of dilacerations، stage of root formation، position of the tooth، and the distance of the tooth from the occlusal plane are factors reported to increase treatment time and complexity(15،16،17).
Information on the development of teeth and their emergence into the oral cavity is significant in clinical or surgical practice and in forensic medicine and archaeology as well (18،19،20) .A host of systemic prenatal and postnatal disorders، diseases and syndromes (table no 1) (21،22،23).

The objective of this case report is to increase awareness of cases of multiple unerupted teeth in which multiple etiologies need to be discussed and investigated in addition to treatment option available that might help to meet the patient satisfaction .

والوجه والفكين / كلية طب الأسنان والذي يسعى الى العلاج .
الفحص السريري والشعاعي كشف أن المريض يمتلك سبعة اسنان دائميـة غيرمطمورة و اثنان من الأسنان اللبنية وغير المطمورة كمـا ان المريض يمتلك ثلاثة وعشرون سنـا من الاسنان الدائمية المطمورة أظهر التاريخ الطبي للمريض،الفحص السريري الكامل ، الفحص الشعاعي، والاستشارة الطبية لباقـي التخصصات مع التحاليـل المخبريـة ان المريض لا يعاني مـن أي أمراض جهازية أو متلازمة كما بينت عدم وجود هذه الاعراض عند اي فرد اخر من الأسرة .
هـذا البحـث يوضـح ، امكانيـة الوصـول الى التشخيـص المتعدد الافتراضـي ، التشخيـص عـن طريـق الإقصـاء لحـالات اخـرى وخيارات العلاج لمثل هذه الحالة.

Key word : Nonsyndromic Hypodontia، multiple impaction

Introduction

Impaction or pathological impaction is defined as failure of tooth to erupt in its appropriate site in the dental arch within its normal period of growth (1).

Impacted tooth is defined as tooth whose roots are 2/3rd or fully developed but nevertheless expected to erupt. In impacted teeth، root development might have finished، but unaided eruption is not expected to occur (2). lack of eruptive forces and rotation of tooth bud may cause multiple impactions(3،2).

Finally crowding and rotation of tooth buds can also lead to impacted teeth multiple impacted teeth may be related to syndromes and metabolic disorders (4). Any permanent tooth in the dental arch can be impacted but the teeth most frequently involved in descending order are the mandibular and maxillary third molars ، second premolar and maxillary central incisors(5،6).

impacted teeth are usually painless multiple impactions are most instances seen associated with some syndromes such as cleidocranial dystosis ، Gardners syndrome ، Gorlin – Sedano Syndrome and Yunis –Varon Syndrome.(msagati et al ، BMC Oral health)this condition has also been reported in mucopoly saccharidoses.(4).

According to Moyers Concept the factors leading to impaction are :

1- Trauma to deciduous tooth bud.
2- Rate of Resorption of deciduous tooth.
3- Availability of space in the arch.
4- Disturbance in tooth Eruption Sequence/
5- Rotation of tooth buds.
5- Canine impaction in Cleft area in Person with Cleft، Premature root Closure
6- Abnormal muscle pressure and systemic conditions like Malnutrition، Tuberculosis، Syphilis، Rickets، Anemia، Progeria and syndromes such as Cleidocranial dysplasia، Achondraplasia، Down syndrome etc (2،6،7).

There are numerous eruption – regulating molecules having similar and overlapping functions، which ensures that the even the

Non-Syndromic Non-Hereditary Hypodontia with Concomitant Multiple Impacted Teeth : A case report

نقص الاسنان المصاحب للاسنان المتعددة المطمورة غير الوراثي والغيرالمصاحب لاي متلازمة: حالة نادرة

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ABSTRACT

Tooth impaction is widespread and well recognized entity in dentistry especially the lower wisdom teeth .Multiple impacted teeth is a rare condition and usually ass - ciated with syndromes such as Gardner's syndrome، cleidocranial dysplasia and other syndromes.

The case under examination demonstrate 21 years old Iraqi male presented to the outp - tient clinic at department of oral and maxi - lofacial surgery / College of Dentistry / Tikrit university seeking management .

Clinical and radiographic examination r - vealed that the patient had only 7 erupted permanent teeth and 2 retained deciduous teeth and there were 23 impacted permanent teeth

Detailed history ،proper examination both oral and extra oral examination ،radiograp - ic examination ، referral to other specialties and investigation showed that no other family member has the same finding and the patient has no systemic disease or syndrome .

This paper ،discuss the possible differential diagnosis ، diagnosis by exclusion and the treatment option for such case .

الملخص

الاسنـان المطمورة في الفك هي حالـة معروفة على نطاق واسع في حقل طب الأسنان وخصوصـا الأسنان السفلية .لكن حالة تعدد الأسنـان المطمـورة في الفـك الواحـد هي حالـة نـادرة، وعادة ما ترتبـط مع متلازمه، من المتلازمات ، مثـل متلازمة غاردنر، وخلل التنسج الترقوي القحفي ومتلازمات أخرى.

الحالـة قيد البحـث والدراسة لرجل عراقـي ذا واحد وعشرون عامـا والذي قـدم إلى العيادة الخارجية في قسـم جراحة الفم