A rare case of bilateral fusion of maxillary premolar and molar - a case report

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Abstract
Fusion is a developmental anomaly characterized by the union of two adjacent teeth producing a single tooth. These teeth may be fused by enamel, dentin, or both. The prevalence of fusion in permanent dentition is approximately 0.2% whereas cases of bilateral fusion are less frequent than unilateral fusion and is reported to be 0.05%. Very few cases of fusion involving molar and premolar teeth have been reported in the literature. The cases of bilateral fused teeth are less frequent than unilateral and prevalence seems to be higher in the anterior region than in the posterior region. In this article we report a rare case of bilateral fusion of permanent maxillary second premolar with molar teeth.

INTRODUCTION
Fusion of teeth refers to the union of two normally separated tooth germs and depending upon the stage of development of the teeth at the time of union, it may be either complete or incomplete (1) Fusion can occur between teeth of the same dentition or mixed dentitions and between normal and supernumerary teeth (2,3). Only a few cases of fusion involving molar and premolar teeth have been reported (4) In both dentitions, the prevalence is higher in the anterior region than in the posterior region [2,3]

CASE REPORT
A 63 year old male patient reported to the Department of oral medicine and radiology with the complaint of missing teeth in the lower right and left back tooth region since two years. The patient’s medical, drug and family history were non contributory. On extra oral examination no abnormalities were detected. On intra oral examination, missing teeth with respect to 14,17,18,21,23,24, 27,28,36, 37,38,46, 47,48 were noted, stains and calculus and 11 was found to be decayed. Also a large crown was noted bilaterally in the maxillary arch. On detailed examination, the maxillary first molar was found to be joined with maxillary second premolar bilaterally (Figure 1). On the right and the left side the premolar was found to be fused to the molar from the palatal side. Based on the complaint and examination an provisional diagnosis of partially edentulous maxillary and mandibular arch was made. The other diagnosis considered were dentinal caries with respect to 11, chronic generalised gingivitis and bilaterally fusion of maxillary premolar with molar was made. An orthopantomogram was made which revealed fusion of maxillary premolar with the maxillary molar bilaterally. The left fused teeth showed the presence of 4 roots (Figure 2). As part of treatment the patient was advised oral prophylaxis, restoration of decayed tooth and prosthetic rehabilitation of the missing teeth. There was no abnormalities present on the bilateral fused premolar and molar teeth and were asymptomatic and hence the patient was advised for regular check up.
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DISCUSSION

Fusion is the union of two normally separated tooth germs. Depending upon the stage of development it may be either complete or incomplete (1). The aetiology of fusion is still not clear, but the influence of pressure or physical forces producing close contact between two developing teeth has been reported as one possible cause (5). Genetic predisposition and racial differences have also been implicated as contributing factors. Very few cases of fusion involving molar and premolar teeth have been reported (6-8). Fused teeth are usually asymptomatic as seen in our case. The literature on the occurrence of double teeth is extensive but there is still much discussion concerning the nomenclature. The use of Levitas’ classification to distinguish between cases of fusion and gemination is widely used (9). In clinical situations, cases of fusion have the appearance of a congenitally missing tooth, while in gemination the number of teeth in the dentition is normal, provided the double tooth is counted as one unit (10). In our case the patient had several missing teeth so the actual counting of teeth was not possible. Teeth which fused are unaesthetic due to their irregular morphology. They also present a high predisposition to caries, periodontal diseases, and spacing/crowding problems (1) Fusion may also have an adverse effect on occlusion, causing irregularities and sometimes delayed eruption of other teeth. Several treatment modalities have been described in the literature with respect to the different types and morphological variations of fused teeth, which include endodontics, restorative, surgical, periodontal and/or orthodontic treatment (11). Fused teeth contribute to esthetic concerns, space problems, occlusal disturbances, and delayed eruption of the permanent successors which was not present in our case.

CONCLUSION

Bilateral fusions are rare developmental anomaly and need to be recorded during routine clinical examination. The abnormal morphology demands early interceptive treatment in order to avoid any complications in the future.

REFERENCES