

CASE REPORT

A Late-Developing Supernumerary Premolar

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Supernumerary teeth can interfere with occlusal development and orthodontic mechanics such as space closure.¹⁻⁴ If supernumeraries are not identified early enough, complications can lead to resorption of other teeth, malocclusion, cystic degeneration, or ameloblastoma formation.^{5,6}

This case report documents the rapid development of a supernumerary in the mandibular premolar region during a nine-month period of orthodontic treatment.

Case Report

A 10-year-old male in the mixed dentition presented to the orthodontic department at the University of Catania with a Class II, division 2 malocclusion on a Class I skeletal base. The overbite was 7mm, and the overjet was also excessive. Radiographic evaluation showed the presence of all developing permanent teeth (Fig. 1). There was no family history of supernumeraries.

Treatment initially involved the use of a maxillary utility arch to help resolve the overbite discrepancy. Nine months later, a progress x-ray



Fig. 1 10-year-old male patient before treatment (arrow indicates early supernumerary premolar formation).



Fig. 2 Panoramic radiograph taken nine months later reveals developing supernumerary premolar in lower right quadrant.

was taken to assess the position of the upper canines. The panoramic radiograph revealed a supernumerary premolar developing on the right side of the mandible, between the roots of

the canine and first premolar (Fig. 2). A more careful inspection of the previous radiograph, which was taken with the same machine, showed the presence of a previously overlooked thin,

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semicircular radiolucent band in the same area.

Discussion

Supernumerary teeth are believed to occur in 1-3% of the population, with 8-10% of these teeth being premolars.^{1,5} Unlike other supernumeraries, the premolars are more likely to develop in the mandible than in the maxilla, and they usually resemble normal premolars in shape and size.⁷

Supernumeraries tend to begin their development later than the normal teeth of that region, usually between the ages of 11 and 16.^{1,8} Several cases of late-developing supernumerary premolars have appeared in the literature, but only a few of these reports have described the appearance of supernumerary premolars during orthodontic treat-

ment.¹⁻⁴ Of the case reports with complete serial records,^{9,10} none demonstrated radiographic evidence of such rapid mineralization. Because the fastest development period reported to date has been 18 months, previous authors have recommended that supernumerary premolar mineralization be reevaluated within two years of the initial discovery.¹

Although many clinicians do not routinely screen for late development of teeth during orthodontic treatment, the case shown here highlights the need for meticulous clinical and radiographic examinations during treatment of adolescent and preadolescent children. Any unusual radiolucencies in the mandible should be carefully documented and followed up with progress x-rays at least once a year.

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