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Paediatric dentistry

Quadruple delayed eruption mimicking agenesis

Delayed eruption of first permanent molars (FPMs) can mimic agenesis, posing diagnostic challenges in paediatric dentistry. Genuine agenesis of FPMs is exceptionally rare, typically associated with syndromes or severe oligodontia, with only one reported case of isolated quadruple absence dating to 1943.¹ We present a rare instance of simultaneous delayed eruption of all four FPMs in an otherwise healthy child, highlighting the role of radiographic staging in accurate diagnosis.

An eight-year-old girl (precise age: eight years zero months) presented with clinical absence of all four FPMs (16, 26, 36, 46). Medical and family histories were unremarkable, with no prior extractions. Panoramic radiography (Fig. 1) revealed delayed FPM development with atypical distal positioning relative to primary second molars. Using Nolla's classification, the marked teeth showed root development at stage 7, similar to premolars, while distal crypts were at stages 3 (right mandible), 2 (left mandible), and 0 (maxilla), initially suggesting second or third molars.² However, this pattern was inconsistent with normal eruption.

A conservative monitoring approach was adopted. At eight-month follow-up (precise age: eight years eight months), the mandibular right FPM (46) had erupted clinically. Repeat radiography (Fig. 2) demonstrated accelerated development of the marked teeth compared to premolars at Nolla stage 7, confirming they were delayed FPMs rather than second

molars. The remaining FPMs showed crowns positioned submucosally above the alveolar crest, with anticipated natural eruption.

This case underscores the rarity of genuine FPM agenesis. Permanent molars are developmentally stable and unlikely to be congenitally absent without broader anomalies.^{1,3} Delayed eruption, influenced by multifactorial aetiologies (though none identified here), created an illusion of absence.⁴ Radiographic analysis and developmental staging prevented misdiagnosis, averting unnecessary interventions like prosthetics. Clinicians should prioritise serial radiography when multiple FPMs appear missing, even in asymptomatic patients, to distinguish delayed eruption from agenesis.^{5,6}

The patient's prognosis is excellent, with long-term monitoring ensuring occlusal development. This report emphasises meticulous evaluation of apparent dental anomalies.

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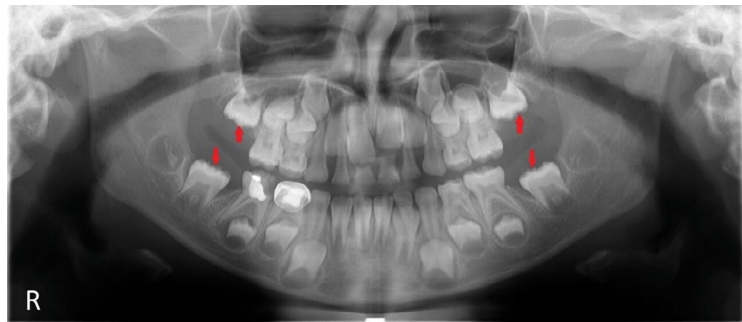


Fig. 1 Panoramic radiograph of the eight-year-old patient showing the uneruption of all first permanent molars. Red arrows indicate the development of first permanent molars (16, 26, 36, 46)



Fig. 2 Panoramic radiograph after eight months follow-up showing progression of first permanent molar development with initial eruption evident and second molar crypts becoming visible

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Correction to: Management of angina in emergency tooth extraction

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Journal's correction note

Letter *Br Dent J* 2025; **239**: 519–521.

When this letter was originally published online, an author was incorrectly listed as M. Kherberk. The correct author name is M. Kherbek.

The journal apologises for any inconvenience caused.

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