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References

1. O'Dowd A. Older people are excluded from clinical research, experts warn. *BMJ* 2025; DOI: 10.1136/bmj.r1719.
2. Pitkälä K H, Strandberg T E. Clinical trials in older people. *Age Ageing* 2022; DOI: 10.1093/ageing/afab282.
3. National Institute for Health and Care Excellence. Real-world evidence framework. 2022. Available at <https://www.nice.org.uk/corporate/ecd9/chapter/overview> (accessed 18 August 2025).
4. National Institute for Health and Care Excellence. NICE real-world evidence framework: update information. 2022–2025. Available at <https://www.nice.org.uk/corporate/ecd9/chapter/update-information> (accessed 18 August 2025).

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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



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

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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References

1. Anthonappa R, Yiu C, King N. Agenesis of maxillary permanent first molars: Literature review and two case reports. *Pediatr Dent J* 2009; **19**: 228–233.
2. Dakhno L, Malashenko N, Lykhorta K. Prevalence of delayed tooth eruption of permanent maxillary anterior teeth among Ukrainian children: retrospective radiographic study using CBCT data. *Ukr Dent J* 2023; **2**: 61–70.

3. Bilge N H, Yeşiltepe S, Ağırman K T, Çağlayan F, Bilge O M. Investigation of prevalence of dental anomalies by using digital panoramic radiographs. *Folia Morphol (Warsz)* 2018; **77**: 323–328.
4. Jain A, Sisodia S, Rana K S, Gupta C, Ansari I, Dholakia P P. The study of prevalence and distribution of shape anomalies of teeth in Indian population on the basis of age and gender. *Cureus* 2022; DOI: 10.7759/cureus.28532.
5. Voronkova H V, Smagliuk L V, Karasiunok A Y. Etiopathogenesis and diagnostics of the mandibular permanent first molars retention. *Med Ecol Probl* 2019; **23**: 41–45.
6. Park S, Kim H, Song J, Shin T J, Kim Y, Hyun H. A retrospective clinical investigation of delayed eruption of premolars in the mandible. *J Korean Acad Pediatr Dent* 2023; **50**: 469–482.

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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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