

Rare non-syndromic bilateral maxillary and mandibular permanent canine agenesis

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Abstract

Complete agenesis of the permanent canines in the maxilla and the mandible is extremely rare and has only been reported twice. Studies have shown that the incidence of missing canines is more in females. This report describes a sporadic case of congenital absence of maxillary (bilateral) and mandibular (bilateral) canines.

Title: Rare non-syndromic bilateral maxillary and mandibular permanent canine agenesis

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Key clinical message: Complete agenesis of canines in the permanent dentition in the maxilla and mandible is extremely rare and has only been reported sporadically. Canines are essential for guidance during mandibular excursive movements. In such cases, substituting the missing canines with first premolars is a valid option to help in proper function.

Abstract

Complete agenesis of the permanent canines in the maxilla and the mandible is extremely rare and has only been reported twice. Studies have shown that the incidence of missing canines is more in females. This report describes a sporadic case of congenital absence of maxillary (bilateral) and mandibular (bilateral) canines.

Keywords: congenital, canine, cuspid, permanent, agenesis, bilateral

Case Presentation

Exclusive congenital absence of both the maxillary and the mandibular canines is a sporadic occurrence, and to date, only a few cases have been reported that too with at least one canine¹. Bilateral maxillary

canine agenesis is rare and ranges between 0.07 and 0.13%. This paper reports non-syndromic bilateral agenesis of permanent canines in the maxilla and the mandible, with only two such cases reported before^{1,2}. A 25-year-old female patient reported to the clinic with a chief complaint of wanting to align her teeth.

On intra-oral examination, permanent canines were absent in both the maxillary and the mandibular arches, along with crowding [Figure1]. The patient reported no familial history of missing teeth, no prior history of extractions, or previous significant dental treatment. Suspecting that the patient may have multiple canine impactions, the patient was advised to get a panoramic x-ray done. On radiographic examination using the panoramic x-ray, it was observed that the permanent canines were absent in both arches [Figure2]. Several reasons have been reported for missing canines, such as heredity, localized disturbances, syndromes, radiological effects, endocrine disorders, and prenatal infections. However, the exact cause of Congenitally absent permanent canines in most cases remains obscure.

Ethical Statement

Because this report involves no experiment, ethics approval is waived.

Acknowledgment

The authors would like to thank the patient for giving consent.

Patient consent

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy

Conflict of Interest

The authors made no disclosures.

Author contributions: AM: patient treatment: AM, MIK, and AH diagnosis and treatment planning
AM, MIK and AH: manuscript preparation, AM & AH: review and editing

References

- Fukuta, Y., Totsuka, M., Takeda, Y., & Yamamoto, H. (2004). Congenital absence of the permanent canines: a clinico-statistical study. *Journal of oral science* , 46 (4), 247–252.
- Leong, P., & Calache, H. (1999). Bilateral congenitally missing maxillary canines. A case report. *Australian dental journal* , 44 (4), 279–282.

Figure Legends

Figure 1: Intra-oral occlusal pictures depicting the missing maxillary and mandibular permanent canines

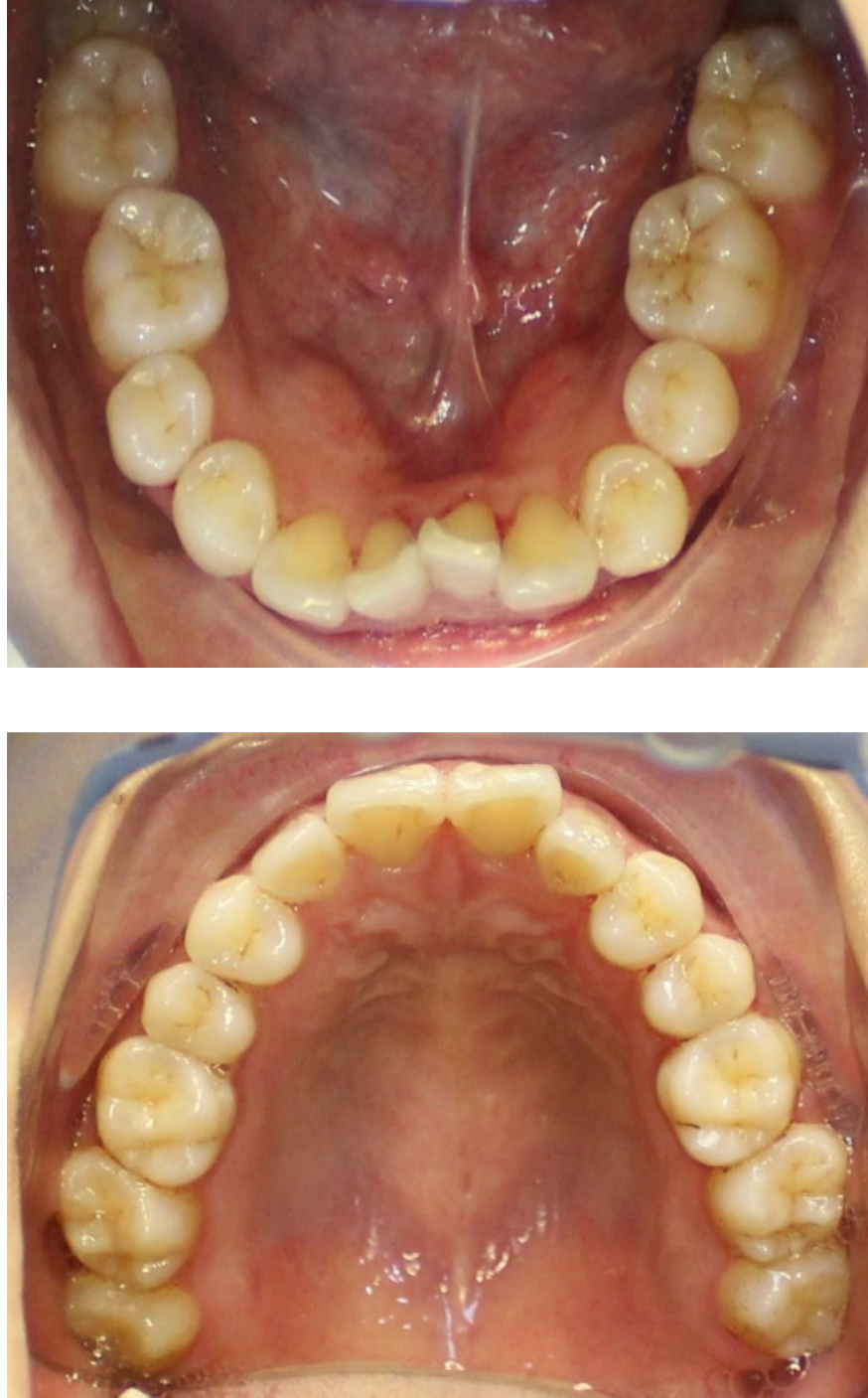


Figure 2: Panoramic image of the patient depicting complete agenesis of the permanent canines in the maxilla and the mandible

