

Hyperdontia: Case Series in Both Primary and Permanent Dentition

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BACKGROUND

Hyperdontia can occur in the primary or permanent dentition but is **five times more common in the permanent dentition**. 80 to 90 percent of all supernumeraries occur in the **maxilla**, with half in the **anterior region** and almost all in the palatal position. A supernumerary primary tooth is followed by a supernumerary permanent tooth in **one-third of cases**.

Males are affected twice as frequently as females. The term **mesiodens** refers to a supernumerary tooth developing between the maxillary central incisors. A posterior supernumerary tooth lying buccal or lingual to a molar tooth is termed a **paramolar**. A **distomolar** or **distodens** refers to a supernumerary tooth developing behind the last molar tooth in the dental arch. Supernumerary teeth are furthermore classified according to their morphology. In the **primary dentition**, they usually resemble the normal anatomy considering the associated tooth class in the affected region or they present with a conical shape. In the **permanent dentition** however, the morphology can be classified into two broad categories: supplemental and rudimentary. Supplemental refers to teeth of normal size and shape. Rudimentary would include teeth with an abnormal morphology. Common morphologies of supernumerary teeth include conical/peg shape, tuberculated shape, or molariform shape. For **permanent** dentition, supernumerary teeth are assigned numbers 51-82 sequentially, starting from the upper right third molar

For **primary** dentition, the letter "S" is added next to the corresponding primary tooth's letter.

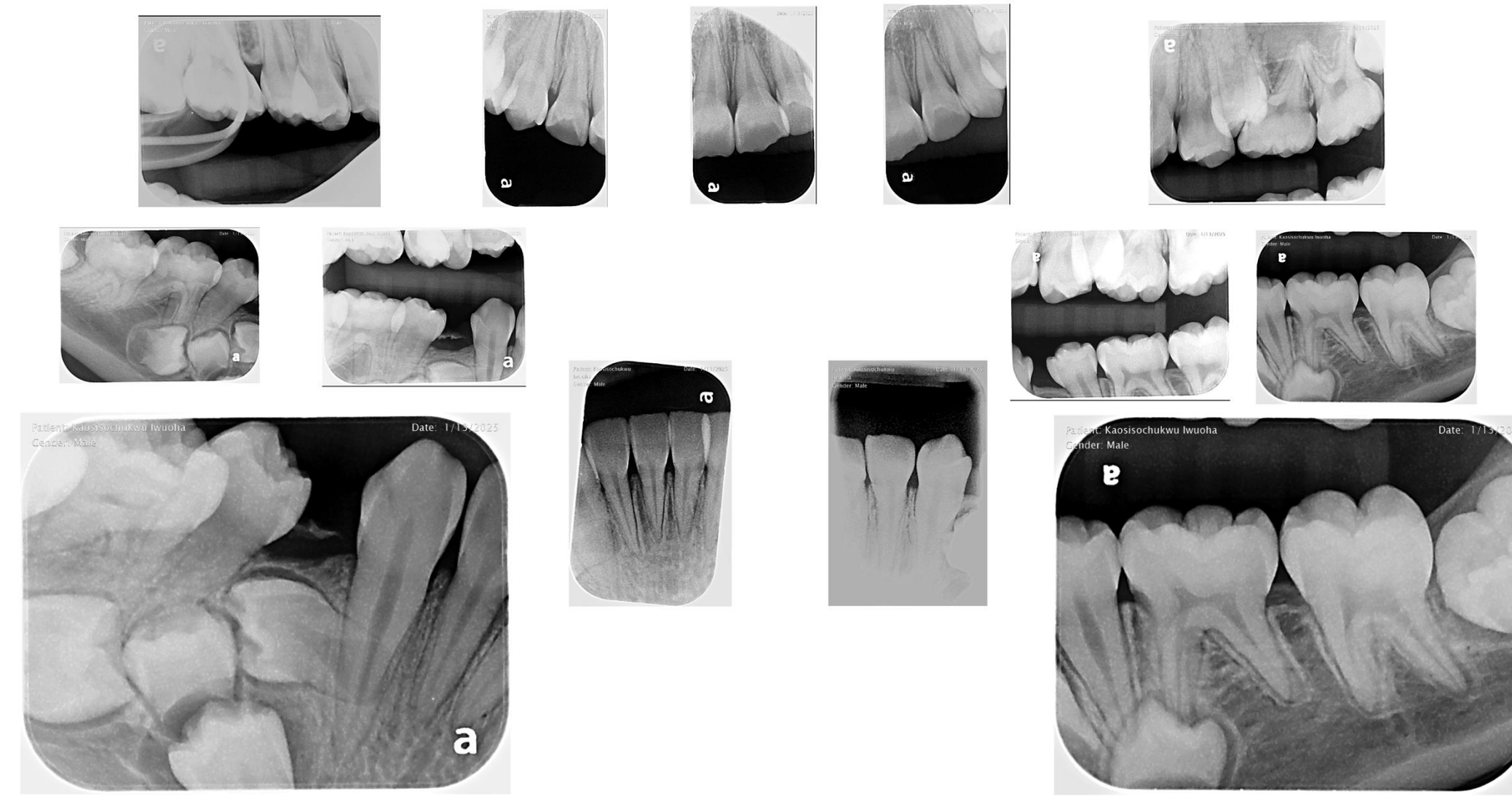
Only 25% of all mesiodens erupt spontaneously. Mesiodens can prevent or cause ectopic eruption of a central incisor.

Less frequently, a mesiodens can cause dilaceration or resorption of the permanent incisor's root, resorption of the crown, or coronal space ossification. Dentigerous cyst formation involving the mesiodens, in addition to eruption into the nasal cavity, has been reported. If there is an asymmetric eruption of an incisor, or an over-retained primary incisor, a supernumerary tooth can be suspected.

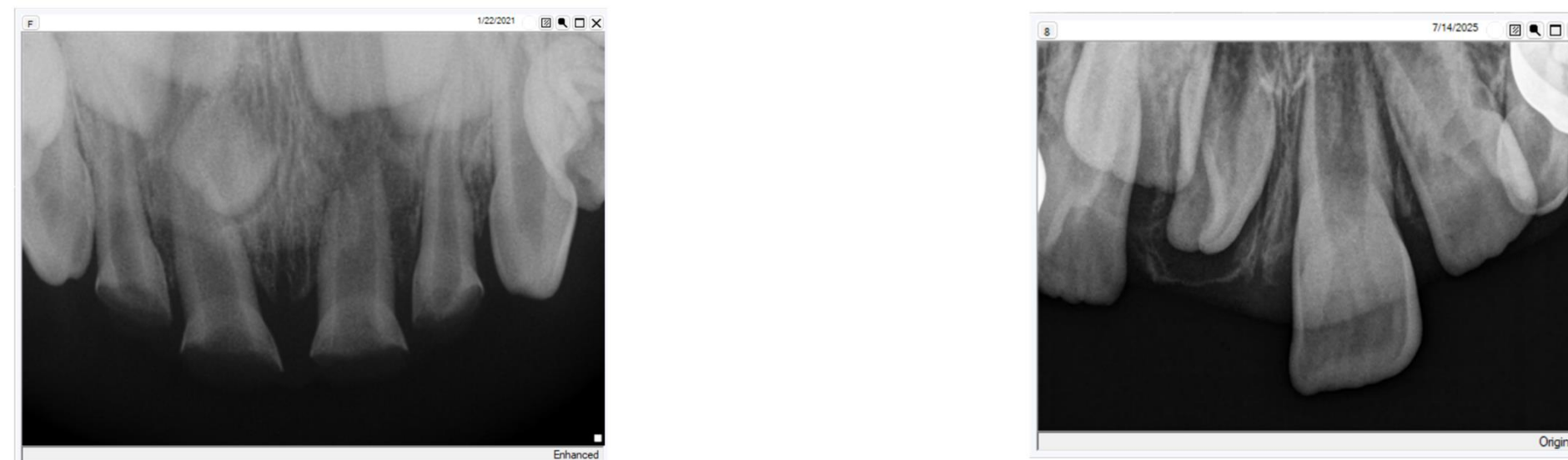
Syndromes associated with hyperdontia include:

1. Cleidocranial dysplasia
2. Familial adenomatous polyposis
3. Trichorhinophalangeal syndrome, type 1
4. Rubinstein-Taybi syndrome
5. Nance-Horan syndrome

Patient Case #1



Patient Case #2



Patient Case #3



Treatment / Management for Case #1

Medical history = Microcephaly; hx of seizures; Medication = Trazadone, Melatonin, polyethylene glycol (MIRALAX); NKDA

Findings: LL Supernumerary tooth #71 and impacted tooth #21; LR supernumerary tooth #79A, B, C and impacted tooth #29

The mandibular premolar region has been reported as the most common site for multiple supernumeraries in non-syndromic patients.

Hyperactivity of the dental lamina is now the widely accepted etiology of excessive tooth development.

There are theories that supplemental supernumeraries develop from an accessory tooth bud, and more poorly formed supernumerary teeth develop from the epithelial remnants of the hyperactive dental lamina.

Embedded type of supernumerary teeth can cause delayed eruption of permanent teeth, dental crowding, tooth root resorption, cyst formation, and even cranial and maxillofacial deformity.

Treatment: Referral to Oral Surgery for extraction of supernumerary teeth

Anticipatory Guidance: Supernumerary teeth that are left untreated can develop dentigerous cyst

Treatment / Management for Case #2

Medical History = ADHD; s/p Tonsillectomy and Adenoidectomy, Tubes in ears; Medications = Guanfacine; NKDA

Findings: Supernumerary mesiodens, tooth #51 – first detected 1/22/2021, still present with growth and development on 7/14/25

When is the best time to refer for extraction of a mesiodens? Early surgical intervention may prevent problems with adjacent teeth but could damage developing structures. Waiting allows more complete root development and may reduce surgical complications, but can cause irreversible damage like impaired root development, displacement, and eruption problems. According to AAPD Reference Manual Extraction of an unerupted supernumerary during early mixed dentition (age 6 to 7 years when the permanent crown has formed completely and the root length is less than the crown height) allows for a normal eruptive force and eruption of the adjacent normal permanent incisor.

Anticipatory Guidance: If there is no eruption of the permanent incisor after 6-12 months and sufficient space exists, surgical exposure and orthodontic traction may be needed.

Treatment / Management for Case #3

Medical History: ASA 1; Medications: None; NKDA

Findings: Supernumerary tooth **#DS**

Primary supernumerary teeth normally are accommodated into the arch and usually erupt and exfoliate without complications.

Surgical extraction of unerupted anterior supernumerary teeth during the primary dentition can displace or damage the permanent incisor.

Treatment: Monitor

Anticipatory Guidance: A supernumerary primary tooth is followed by a supernumerary permanent tooth in **one-third of cases**.

References

American Academy of Pediatric Dentistry. Management of the developing dentation and occlusion in pediatric dentistry. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025;497-515