

文題目(出處)：	Multiple pulp stones in primary and developing permanent dentition: A report of 4 cases. Case Rep Dent 2012, article ID 408045)
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內文：

**I. Abstract**

- Pulp stones** : Foci of calcification or discrete calcifications in the dental pulp.  
They are frequently found on bitewing and periapical radiographs, but their occurrence in entire dentition is unusual.
- Reporting 4 cases : Not contributory to PMH, PDH, FH  
HP report→true denticle  
No systemic, syndromic, genetic involvement  
May be idiopathic origin

**II. Introduction**

- Pulp calcifications: Associated with dentine dysplasia, dentinogenesis imperfecta and infrequent in primary dentition.

Cases :

- 6 y/o F

Pulp stones in all primary molars with taurodontism



CC: Decayed LP teeth



OE: Primary molars decayed, taurodontism, pulp stones

Tx: 1. Pulpectomy (pri. max.and mand. Left second molars) & remove pulp stones



HP exam: True denticles

Tx2: Extracted primary mand. Right second molar→band and loop maintainers

Rest decayed teeth → OD with GIC	
2.	12 y/o M
	
<p>CC: Malaligned teeth in lower front region.                  OE: Retained primary mand. incisors                  Pano : pulp stone in all primary molars (no caries)                  Tx: Extracted retained primary mand. incisors                  Orthodontic Tx</p>	
3.	10 y/o M
	
<p>CC: Decayed right post. teeth for 2 month.                  OE: Pulp stones in all second primary molars, permanent first molars and mand. central incisors.                  Tx: OD tx with GIC, 5E pulp capping , 7D &amp; 8D extracted</p>	

4. 11y/o M



CC: Decayed left post. Teeth for 1 month

OE: Pulp stones in all primary molars and permanent first molars  
calcifications in developing unerupted permanent mandibular second molars,  
permanent mandibular canines, and first premolars

Tx: OD Tx and extraction of primary mandibular right first molar followed by lingual arch.

## III. Discussion

一、Pulp stones : (1) 位置 **freely** (most common, within the pulpal tissue, 50um to mm)**Embedded** (apical portion of root)**Adherent** (attached pulpal wall , not enclosed by dentin) RCT  
困難

數目 single or several small ROs (1~12 stones or even more)

大小 minute particle to large masses

牙位 commonly in molars

(2) True stone : dentine and lined by odontoblasts

false pulp stones : degenerating cells of the pulp that are mineralized.

“diffuse” or “amorphous” pulp stones : more irregular in shape

二、

1. **Sayegh and Reed**: Calcification in carious teeth from children and young adults(10–34 years old) > 5倍 in noncarious teeth

→ Caries may speed up pathological condition (related to properties of dentin)

**Our cases**: Pulp stones in carious teeth and

Noncarious and unerupted teeth by idiopathic origin

2. **Kumar et al.**: 120 primary maxillary and mandibular extracted teeth

→ 25% of second molars presented evidence of pulp calcifications and approximately 3% of central incisors were calcified.

→ Pulp calcification increases with age.

3. **Arys et al.**: Age did not have any influence on the occurrence of pulp

calcifications.

42 primary molars with less than one third of their root resorbed.

42 healthy children of both sexes were selected ,aged between 5 and 13 yrs.

The teeth were examined by microradiography and light microscopy,

➔ Pulp stones were present in 78% of the molars, with 95% of the material showing some form of pulp calcification.

4. Pulp calcification also occurs as sequelae to **trauma** to the primary dentition (healing process following trauma)

➔ Prevalence of pulp calcification in injured primary teeth that were diagnosed by radiographs varied from 6.1% to 35.9%.

5. **Yaacob and Hamid**: Free or attached pulp stones were the most common calcification.

They selected 120 teeth of children aged between 3 and 11 yrs, examined them histologically, and reported 6.7% of prevalence of pulp stones.

三、

**Case 1.2** : pulp stones along with taurodontism in primary molars.

**Taurodontism:**

(1) Elongated pulp chambers and apical displacement of bifurcation or trifurcation of the roots. (2) Etiology of taurodontism is diverse commonly attributed to the failure of invagination of the epithelial root sheath sufficiently early to form the cynodont.

(3) Autosomal transmission

(4) Associated with Down’s syndrome, Klinefelter’s syndrome

(5) Frequently in permanent teeth , mand. teeth

**Case 4** calcifications were also observed in unerupted developing permanent teeth

(Till date to the best of our knowledge no case has been reported of the same findings)

➤ Our case :

1. Pulp stones were found in young patients

↔ Older age group or in association with certain syndrome

2. Idiopathic origin

題號	題目
1	何者疾病易出現pulp stones? (1) Taurodontism (2) Amelogenesis imperfecta (3) Dentinogenesis imperfecta (4) Dentin dysplasia typell (A)134 (B)234 (C) 14 (D)34
答案 (D)	出處：Oral and maxillofacial pathology,3 <sup>rd</sup> edition p.112
題號	題目
2	Pulp stones的治療方式為何? (A) Root canal treatment (B) Pulpectomy (C) Pulp capping (D) No treatment
答案 (D)	出處：Oral and maxillofacial pathology,3 <sup>rd</sup> edition p.113