CASE REPORT: Mackenzie

Chief Complaint

This 6 year old female was seen for evaluation of yellow discoloration on the permanent lower right central incisor. Patient complains of sensitivity to cold and concern about aesthetics. Previous dentist mentioned this might be a more extensive genetic enamel hypoplasia, so parents sought second opinion about etiology and risk for Mackenzie's permanent dentition as well as subsequent pregnancies.

Medical History

Patient was delivered at full term by C-section after an uncomplicated pregnancy to a G1P1 mother. Apgars were 9 and 10 at 1 minute and 5 minutes respectively. Birth weight was 8 lbs 12 oz, length 21 inches. Patient has been followed regularly for well-child visits, height and weight are 50th percentile. All immunizations are up to date.

Dental History

Mackenzie's first dental visit was associated with a fall at 12 months of age which displaced both deciduous lower central incisors. Regular dental care started at age 2 years and the patient has a history of regular dental care every 6 months. Patient sustained an injury to deciduous upper incisors at age 5 which displaced the teeth temporarily.

Family History

This patient has no siblings. The family reports no known history of enamel problems or extensive fractures. Mother has a history of multiple fillings as a child, but no observable alteration in enamel on clinical examination.

Radiograph Findings and Interpretations

Bitewing radiographs demonstrate that Mackenzie is in the early mixed dentition stage. Her dental age is slightly ahead of her chronologic age with all four permanent first molars being fully erupted. Her lower central incisors are partially erupted as is her right maxillary permanent central incisor. The left maxillary primary incisor is close to exfoliation. Upper and lower occlusal radiographs were taken prior to the clinical photographs. In the mandibular occlusal view, there is evidence of an irregularity of the enamel of the right central incisor, suggesting a disturbance during enamel mineralization.

Clinical Photo Findings and Interpretations

*note pitting on lower left central as well as the area of hypoplasia on the right
*note normal enamel on permanent molars

Dental Exam Findings

Oral exam shows a mixed dentition that is slightly advanced (7-8 years) compared to her chronologic age.

Genetic Test Results

No genetic tests conducted at this time.

Differential Diagnosis
Enamel hypoplasia
Amelogenesis imperfecta
Dentinogenesis imperfecta
Trauma
Nonfluoride opacities
Non-hereditary tooth abnormalities

Diagnosis
Trauma related enamel hypoplasia

Treatment Plan
Plan is to allow the tooth to erupt fully and then restore the facial surface of the right mandibular central incisor using composite resin, to lighten the tooth for aesthetics if that is still a concern and to reduce sensitivity. The left mandibular central incisor has pitting but not staining on the facial surface. It may be necessary to restore this tooth as well to prevent staining in the future and to improve esthetics. Interim use of over the counter fluoride (ACT) daily to decrease sensitivity to cold (that has worked well).
Monitor permanent dentition for other evidence of hypoplasia.