Commentary

Commentary: Intrabony Migration of Impacted Teeth

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Intraosseous migration of nonerupting teeth was an unknown natural phenomenon until the introduction of diagnostic roentgenography in the 1920s. Since then, clinicians have filled the literature with case reports of striking occurrences of migrating, impacted maxillary canines, mandibular canines and mandibular second premolars. Thus, today, descriptive reports of these infrequent dental anomalies are no longer so special.

Instead, we are in an era that values the collection of study samples composed of many affected individuals, not just one or several. Using statistical analysis with appropriately sized samples, we can often identify trends and significant associations for rare conditions that a few case reports can seldom reveal. Recently, this research method has been employed successfully in studies of positional dental anomalies by Baccetti, Bjerklin et al, Joshi, Pirinen et al, our own group, and others, as well as by the current authors Shapira and Kuftinec.

In this review article on "intrabony migration of impacted teeth," Shapira and Kuftinec have compiled several cases to illustrate this anomaly among mandibular lateral incisors, canines and second premolars. By definition, "impacted" teeth remain unerupted because of obstruction or some other permanent mechanism. The mandibular lateral incisor may sometimes be displaced, but it always finds its way into the oral cavity, therefore, it does not belong in this "impacted" category, or in this article. What Shapira and Kuftinec are actually describing is *ectopic eruption* of the mandibular lateral incisor during the process of transposition with the adjacent canine, a dental anomaly that was the subject of a recent large-sample study.¹

The causes of malposition of teeth are indeed manifold, as the authors suggest. Collective evidence identifies envi-

ronmental influence—not genetic control—as the primary etiologic factor for malocclusion.² Nonetheless, based on relative frequencies of discrete dental anomalies, at least 10% to 20% of positional variations and mismatches of teeth and jaws may be directly or indirectly a result of inheritance and genetic patterning. We need to learn more about this subgroup. For example, recent research found statistically significant relationships between tooth agenesis and patterns of canine malposition that point to shared genetic mechanisms affecting their combined occurrence.³

I hope this article may help stimulate clinicians and oral biologists to begin collecting meaningful samples to study these and other unusual dental conditions for new insights. With Internet communication and digital imaging, pooling of cases and building large databases would now be easier than ever for multi-center, multi-doctor research collaborations. There are many good questions in search of answers. For instance, why do palatally displaced maxillary canines and transposed mandibular lateral incisors display mesiolingual rotations in situ? Is this severe rotation a programmed occurrence or a chance happening? I don't think the "screwdriver drilling motion" hypothesis of tooth eruption and rotation posited by Shapira and Kuftinec will satisfy most orthodontists' scientific sense. Rather than arguing about preliminary inferences from small-sample observations, we should set up joint projects to collect large samples of these uncommon orthodontic anomalies for shared study. Now that's an exciting prospect.

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