NTP Nonneoplastic Lesion Atlas

Tooth, Odontoblast – Degeneration

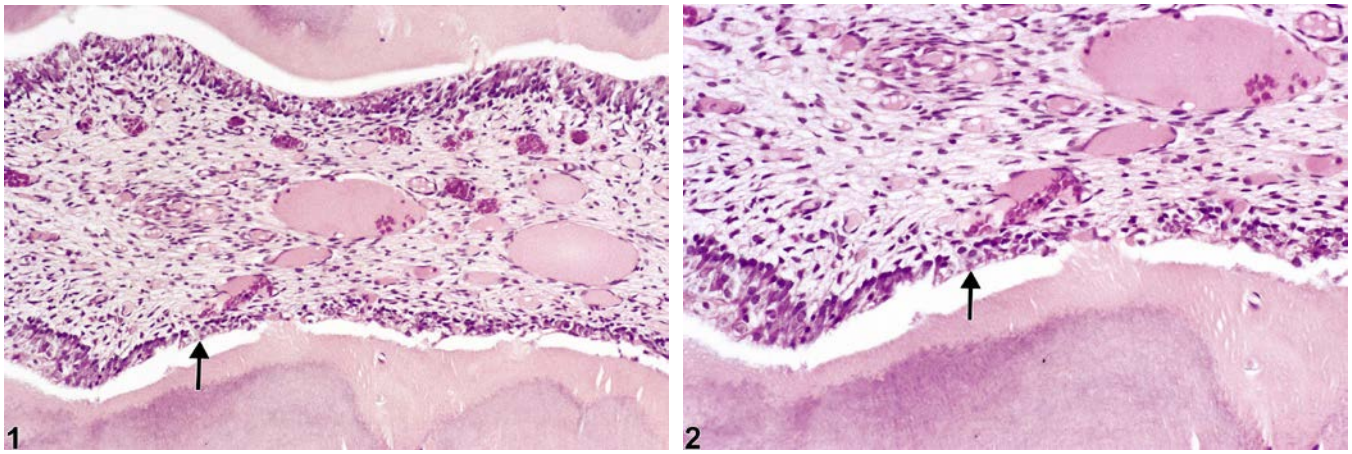

Figure Legend: Figure 1 Tooth, Odontoblast - Degeneration in a male F344/N rat from a chronic study. The odontoblasts are small and disorganized (arrow). **Figure 2** Tooth, Odontoblast - Degeneration in a male F344/N rat from a chronic study (higher magnification of Figure 1). The odontoblasts are small and disorganized (arrow).

Comment: Fluoride toxicity is the most well characterized cause of odontoblast degeneration (Figure 1 and Figure 2, arrows). Odontoblast degeneration is characterized by decreased amounts of cytoplasm, decreased cell numbers, disorganization of the epithelial cell layers and lack of nuclear polarity in cells. It may be focal or diffuse. Degeneration of the odontoblasts affects their ability to produce dentin and may result in focal to diffuse dentin hypoplasia or aplasia, which causes variations in the thickness of the dentin. Published reports of such effects in mice are uncommon.

Recommendation: Odontoblast degeneration should be diagnosed and graded based on the degree of degeneration and the number of odontoblasts affected.

References:

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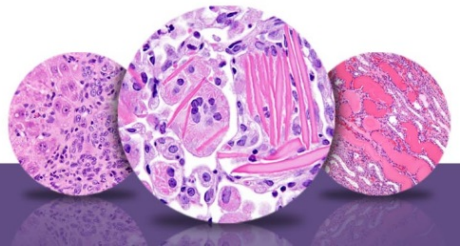

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