



NTP Nonneoplastic Lesion Atlas

Tooth – Necrosis

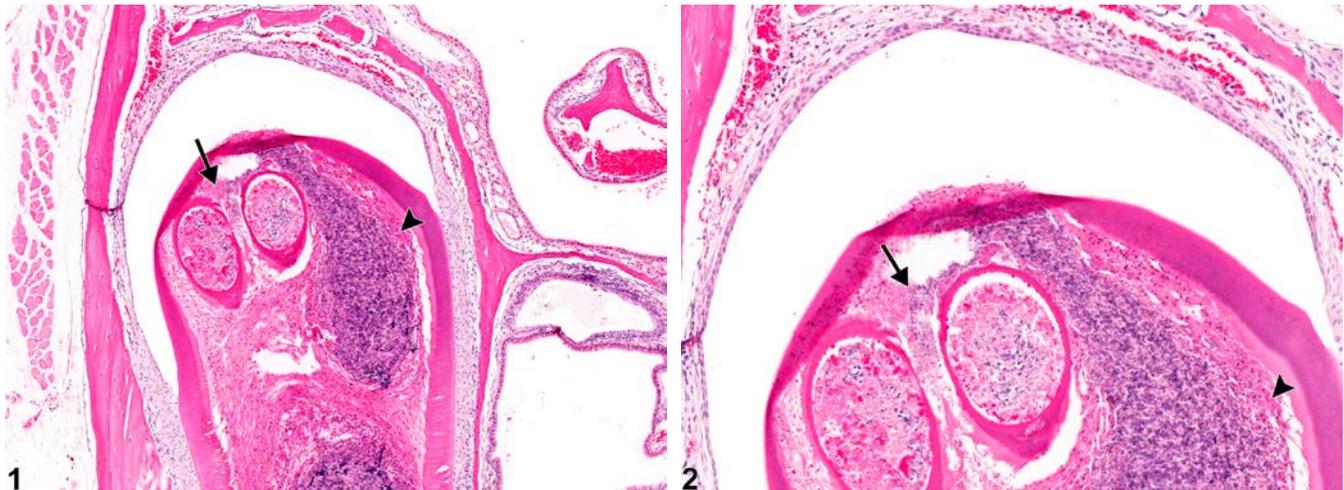


Figure Legend: **Figure 1** Tooth - Necrosis in a male B6C3F1 mouse from a chronic study. There is necrosis of most components of the tooth, including the 2 denticles in the pulp (arrow), and suppurative inflammation of the tooth pulp (arrowhead). **Figure 2** Tooth - Necrosis in a male B6C3F1 mouse from a chronic study (higher magnification of Figure 1). There is necrosis of all components of the tooth, including the 2 denticles in the pulp (arrow), and suppurative inflammation of the tooth pulp (arrowhead).

Comment: Bacterial infection and other injuries in the tooth pulp induce an inflammatory response, but similar to the brain's enclosure within the calvarium, the tooth pulp's enclosure within the dentin limits the amount of swelling. The swelling that occurs with inflammation can result in markedly increased pressure in the tooth pulp, which inhibits blood flow. Additionally, the intrapulpal formation of collateral blood vessels is inhibited because the apex of the tooth is the sole entry point for blood vessels. The decreased blood flow due to increased intrapulpal pressure or vascular occlusion (e.g., thrombosis) generally results in ischemic necrosis of the pulp and death of the tooth.

Recommendation: Necrosis of the teeth should be diagnosed and graded if the majority of a tooth is affected and multiple tissues within the tooth are necrotic. If 1 or 2 particular sites in the tooth are affected (e.g., ameloblast, odontoblast, pulp), and the majority of the tooth is unaffected, then the site(s) should be included in the diagnosis. Any associated inflammation should be diagnosed only if it is considered to be unrelated to the necrosis (i.e., is a primary lesion) or if it is severe enough to warrant a separate diagnosis.



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References:

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