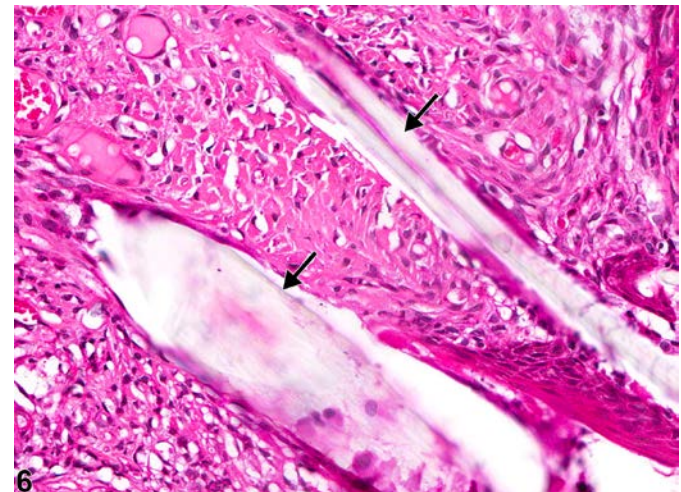
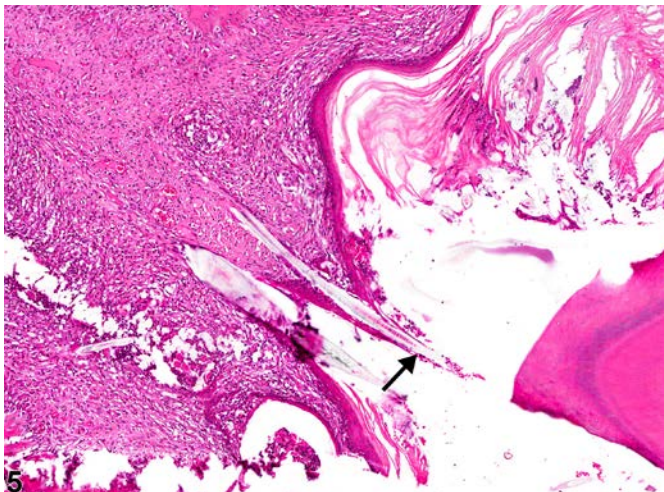
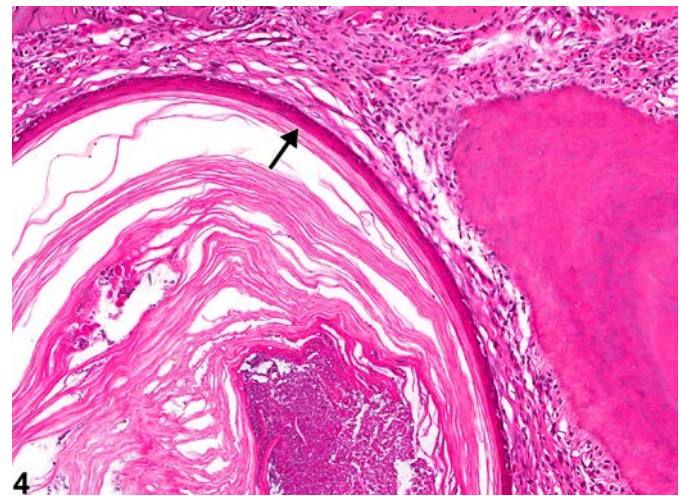
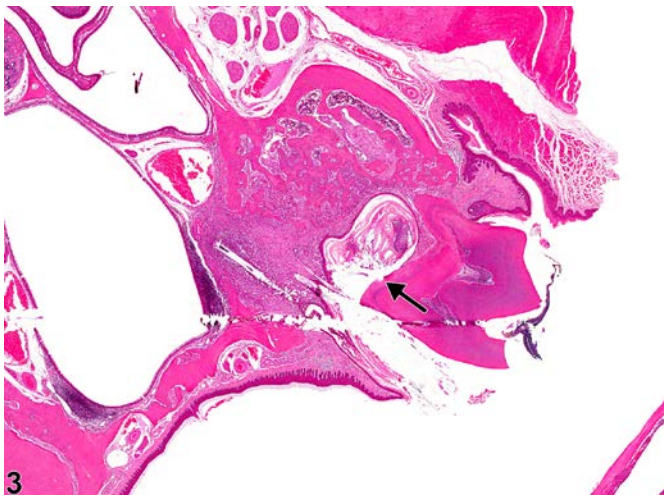
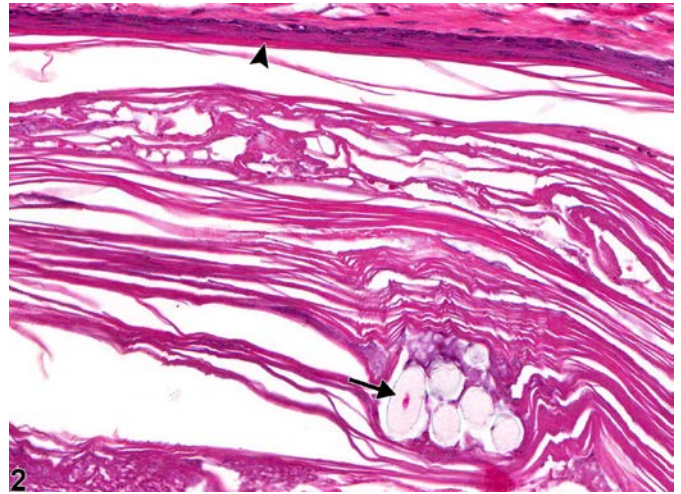
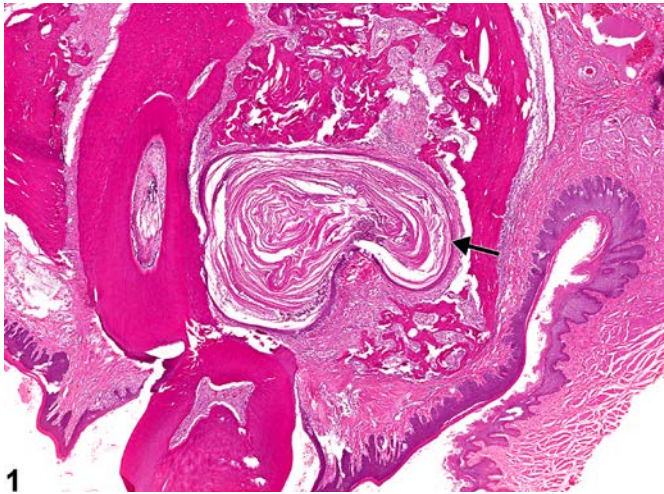


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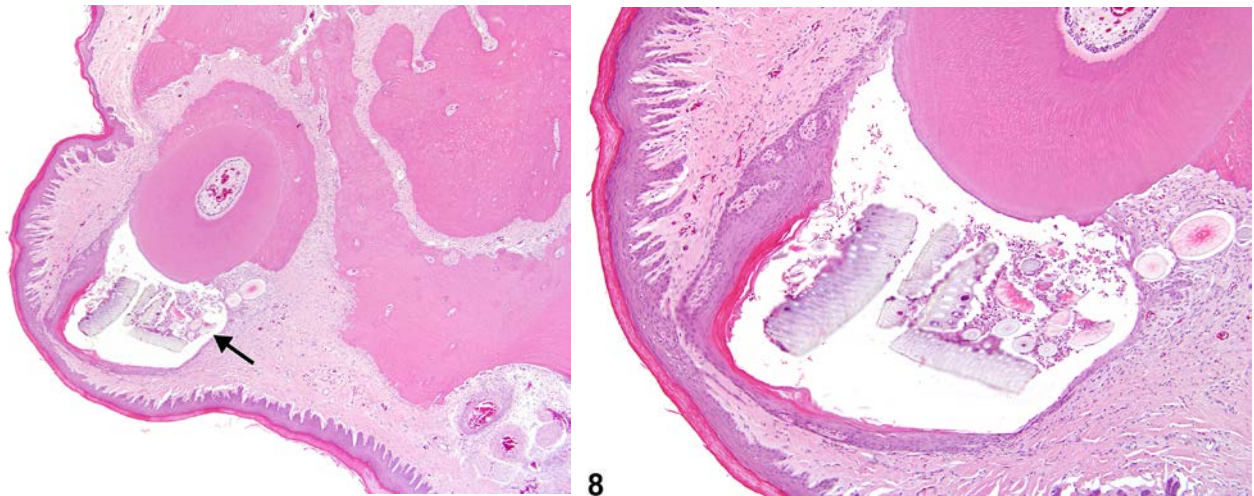
Tooth – Periodontal Pocket





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Tooth – Periodontal Pocket



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Figure Legend: **Figure 1** Tooth - Periodontal pocket in a male F344/N rat from a chronic study. The opening of the pocket (arrow) to the oral cavity is not apparent because of the plane of section. **Figure 2** Tooth - Periodontal pocket in a male F344/N rat from a chronic study (higher magnification of Figure 1). The periodontal pocket is lined by squamous epithelium (arrowhead and contains hair shafts (arrow). **Figure 3** Tooth - Periodontal pocket in a male F344/N rat from a chronic study. The opening of the pocket (arrow) to the oral cavity is adjacent to the tooth. **Figure 4** Tooth - Periodontal pocket in a male F344/N rat from a chronic study (higher magnification of Figure 3). The pocket is lined by keratinizing squamous epithelium (arrow) and is surrounded by fibrosis and chronic inflammation. **Figure 5** Tooth - Periodontal pocket in a male F344/N rat from a chronic study (higher magnification of Figure 3). Hair shafts (arrow) are embedded in the periodontal tissue at the opening of the pocket. **Figure 6** Tooth - Periodontal pocket in a male F344/N rat from a chronic study (higher magnification of Figure 3). Hair shafts (arrows) are embedded in the periodontal tissue. **Figure 7** Tooth - Periodontal pocket in a male F344/N rat from a chronic study. The opening of the pocket (arrow) to the oral cavity is not apparent because of the plane of section. **Figure 8** Tooth - Periodontal pocket in a male F344/N rat from a chronic study (higher magnification of Figure 7). The periodontal pocket is lined by hyperplastic, keratinizing squamous epithelium and contains feed material.

Comment: Periodontal pockets (Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, Figure 6, Figure 7, and Figure 8) are common background findings in rodents. They are found in the periodontal tissues surrounding the teeth, especially the molars. The pockets represent an abnormally deepened gingival sulcus that is lined by keratinized squamous epithelium and are frequently secondary to the impaction



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of hair (Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, and Figure 6), feed (Figure 7 and Figure 8), or bedding material. Alternatively, bacterial periodontitis can result in detachment and resorption of periodontal ligament fibers and the formation of a periodontal pocket in which foreign bodies can become entrapped. Impacted hair, feed, or bedding may penetrate the surrounding tissues, resulting in chronic inflammation and fibrosis (Figure 4, Figure 5, and Figure 6). They are lined by squamous epithelium that is often keratinized.

Differential diagnoses for periodontal pocket include squamous cyst and cystic keratinizing hyperplasia. Cystic keratinizing hyperplasia is thought to be on a continuum from hyperplasia to squamous cell carcinoma. In comparison, periodontal pockets tend to be unilocular structures lined by normal squamous epithelium. Squamous cysts are similar to periodontal pockets morphologically, but they are not necessarily located adjacent to a tooth and do not communicate with the oral mucosa. Ideally, the communication to the oral cavity can be seen in a periodontal pocket lesion, but the opening may not be apparent because of the plane of section.

Recommendation: Periodontal pockets should be diagnosed but not graded. Foreign material (e.g., hair shafts, bedding, feed) within the pocket should not be diagnosed separately but should be described in the pathology narrative. However, foreign material found in the tissue surrounding the pocket should be recorded as “foreign body.” Associated inflammation and fibrosis should not be diagnosed separately unless warranted by severity.

References

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National Toxicology Program. 2010. NTP TR-558. Toxicology and Carcinogenesis Studies of 3,3',4,4'-Tetrachloroazobenzene (TCAB) (CAS No. 14047-09-7) in Harlan Sprague Dawley Rats and B6C3F1 Mice (Gavage Studies). NTP, Research Triangle Park, NC.

Abstract: <http://www.ncbi.nlm.nih.gov/nlmcatalog/9002563>



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Tooth – Periodontal Pocket

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