

NTP Nonneoplastic Lesion Atlas

Urinary bladder – Hemorrhage

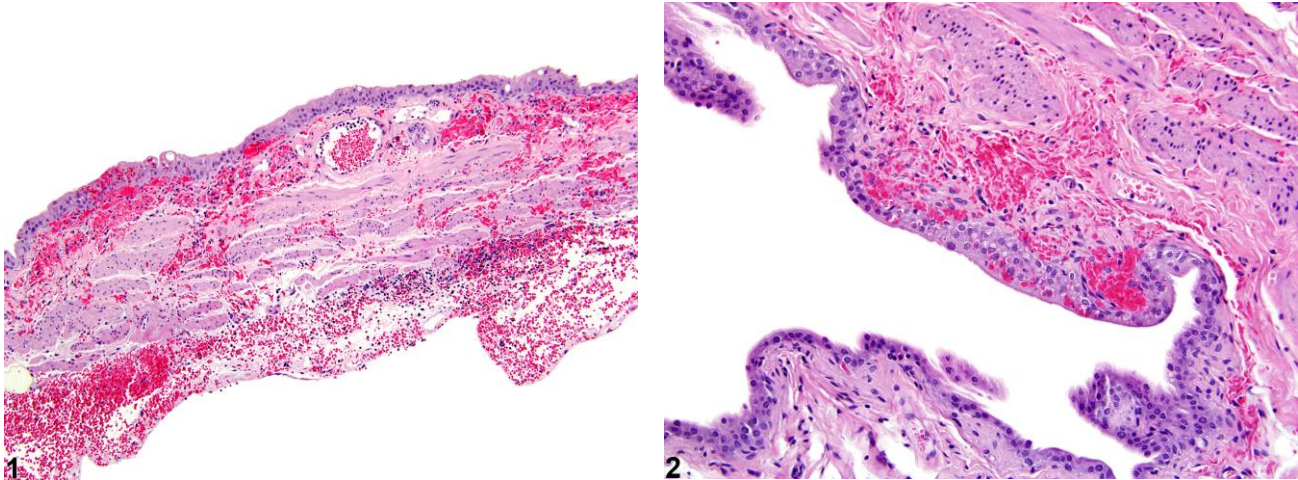


Figure Legend: **Figure 1** Hemorrhage associated with inflammation in a female F344/N rat from a chronic study. **Figure 2** Hemorrhage of undetermined pathogenesis in a male F344/N rat from a chronic study.

Comment: Hemorrhage can be seen anywhere in the bladder. It is commonly associated with inflammation, calculi, or the presence of tumors (Figure 1 and Figure 2). Perimortem hemorrhage can be differentiated by the lack of any concurrent lesions, such as edema, inflammation, or hemosiderin.

Recommendation: Hemorrhage is usually a secondary finding and should not be diagnosed unless it is a major component of the overall lesion and important in the pathogenesis of the lesion. Perimortem hemorrhage should not be diagnosed.

Reference:

Frazier KS, Seely JC, Hard GC, Betton G, Burnett R, Nakatsuji S, Nishikawa A, Durchfeld-Meyer B, Bube A. 2012. Proliferative and non-proliferative lesions in the rat and mouse urinary system. *Toxicol Pathol* 40:14S–86S.

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/22637735>



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