

NTP Nonneoplastic Lesion Atlas

Urinary bladder – Hemorrhage

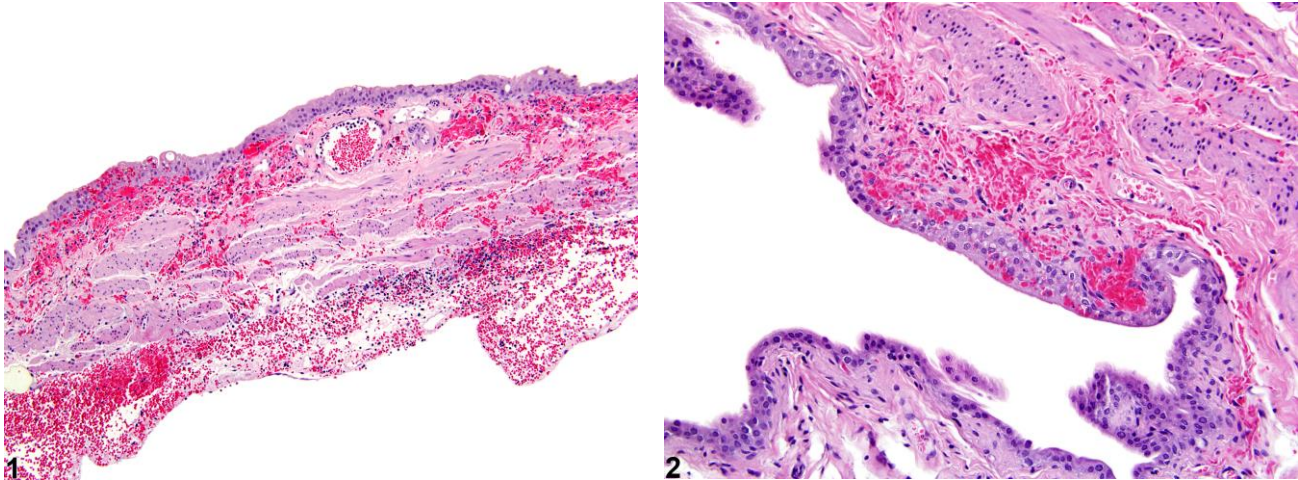


Figure Legend: **Figure 1** Hemorrhage associated with inflammation in a female F344/N rat from a chronic study. **Figure 2** Hemorrhage of undetermined pathogenesis in a male F344/N rat from a chronic study.

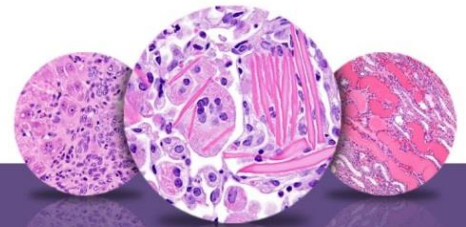
Comment: Hemorrhage can be seen anywhere in the bladder. It is commonly associated with inflammation, calculi, or the presence of tumors (Figure 1 and Figure 2). Perimortem hemorrhage can be differentiated by the lack of any concurrent lesions, such as edema, inflammation, or hemosiderin.

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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Authors:

John Curtis Seely, DVM, DACVP
Senior Pathologist
Experimental Pathology Laboratories, Inc.
Research Triangle Park, NC

Abraham Nyska, DVM, Diplomate ECVF, Fellow IATP
Expert in Toxicologic Pathology
Visiting Full Professor of Pathology
Sackler School of Medicine, Tel Aviv University
Timrat Israel