



NTP Nonneoplastic Lesion Atlas

Esophagus – Hemorrhage

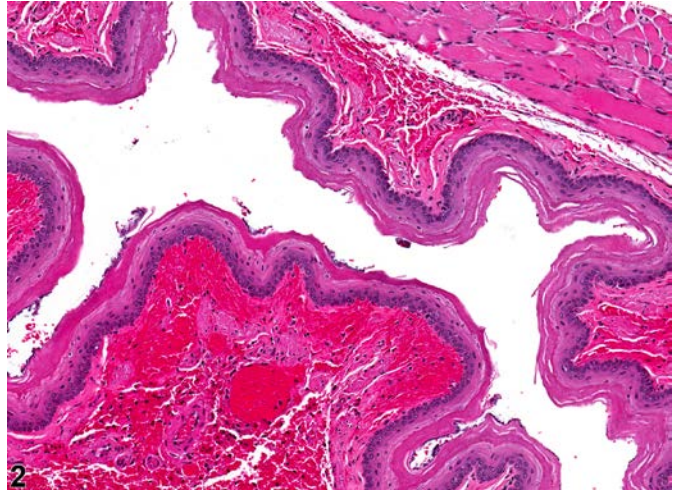
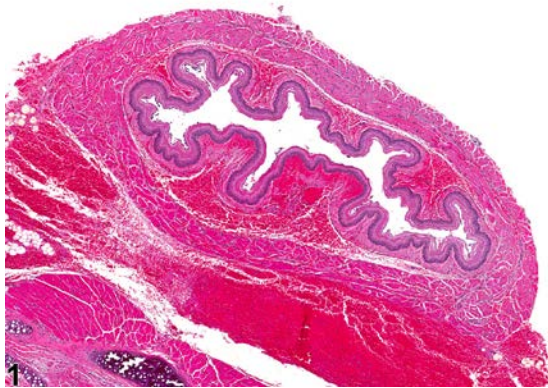


Figure Legend: **Figure 1** Esophagus - Hemorrhage in a male F344/N rat from a chronic study. There is free blood around the esophagus and in the lamina propria. **Figure 2** Esophagus - Hemorrhage in a male F344/N rat from a chronic study (higher magnification of Figure 1). There is free blood in the lamina propria.

Comment: Hemorrhage (Figure 1 and Figure 2) can occur in the esophagus and elsewhere in the gastrointestinal tract. If the hemorrhage is chronic, hemosiderin breakdown products and hemosiderin-laden macrophages may also be present. Direct toxic effects of chemicals on the esophagus are rare in NTP studies. Trauma from the gavage procedure is the most common cause of hemorrhage in the esophagus. Often edema and inflammation are noted in conjunction with the hemorrhage.

Recommendation: Hemorrhage should be diagnosed and graded. Associated inflammation should be diagnosed separately. Associated edema may be diagnosed separately if warranted by severity.

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