Spleen – Inflammation

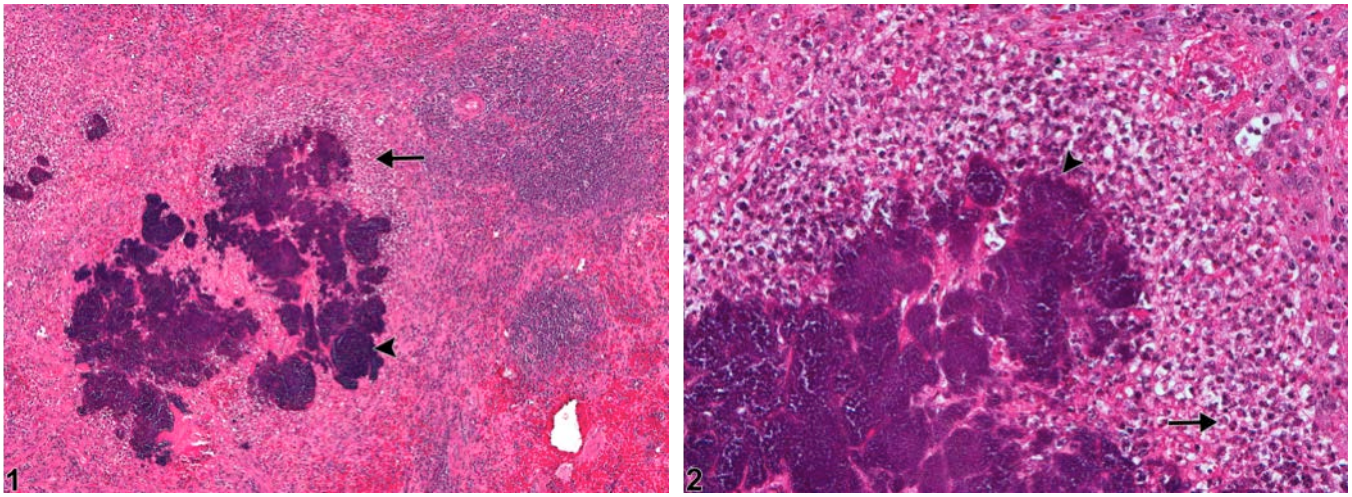
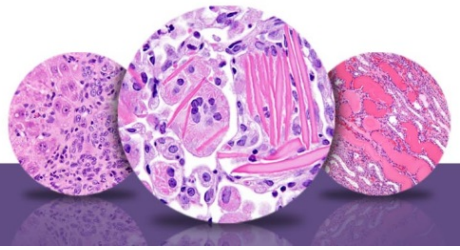


Figure Legend: Figure 1 Spleen - Inflammation, Suppurative in a male F344/N rat from a chronic study. Suppurative inflammation (arrow) borders a large focus of bacteria (arrowhead) within the splenic red pulp. **Figure 2** Spleen - Inflammation, Suppurative in a male F344/N rat from a chronic study (higher magnification of Figure 1). Bands of degenerate neutrophils admixed with necrotic cellular debris (arrow) surround the bacteria colonies (arrowhead).

Comment: Inflammation is an uncommon lesion in the spleen of rodents, and when present, infectious agents are the most likely cause (Figure 1 and Figure 2, arrowheads). In NTP studies, the five standard categories of inflammation are acute, suppurative, chronic, chronic active, and granulomatous. In *acute inflammation*, the neutrophil is the predominant infiltrating cell, though fewer macrophages and lymphocytes may also be present. Edema or hyperemia may be evident. The neutrophil is also the predominant cell type in *suppurative inflammation*, but the neutrophils are aggregated, and many of them are degenerate (suppurative exudate) (Figure 1 and Figure 2, arrows). Cell debris, from both the resident cell populations and infiltrating leukocytes; proteinaceous fluid containing fibrin, fewer macrophages, occasional lymphocytes, or plasma cells; and, possibly, an infectious agent (Figure 1 and Figure 2, arrowheads) may also be present within the exudate. Grossly, these lesions would be characterized by the presence of pus. In the tissue surrounding the exudate, there may be fibroblasts, fibrous connective tissue, and mixed inflammatory cells, depending on the chronicity of the lesion. Lymphocytes predominate in *chronic inflammation*. Lymphocytes also predominate in *chronic active inflammation,* but there are also a significant number of neutrophils. Chronic and chronic active



inflammation may contain macrophages. *Granulomatous inflammation* is another form of chronic inflammation, but this diagnosis requires the presence of a significant number of aggregated, large, activated macrophages, epithelioid macrophages, and/ or multinucleated giant cells.

Recommendation: When present, inflammatory lesions in the spleen should be diagnosed and graded. The inflammation should be categorized based on the predominant cell population present by adding the appropriate modifier to the diagnosis (acute, chronic active, etc.). The word “abscess” should be used as a gross diagnosis only; abscesses should be diagnosed as suppurative inflammation. Associated lesions, such as necrosis or hemorrhage, should not be diagnosed separately unless warranted by severity, but should be described in the pathology narrative. If the inflammation is secondary to another lesion, such as necrosis or neoplasia, it should not be diagnosed separately unless warranted by severity, but should be noted in the narrative.

References:

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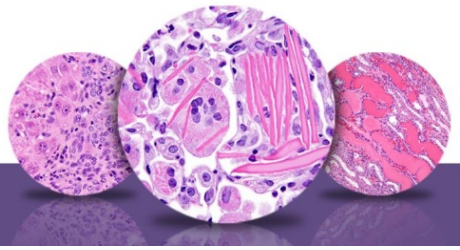

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