

NTP Nonneoplastic Lesion Atlas

Spleen, Red Pulp – Hyperplasia, Stromal

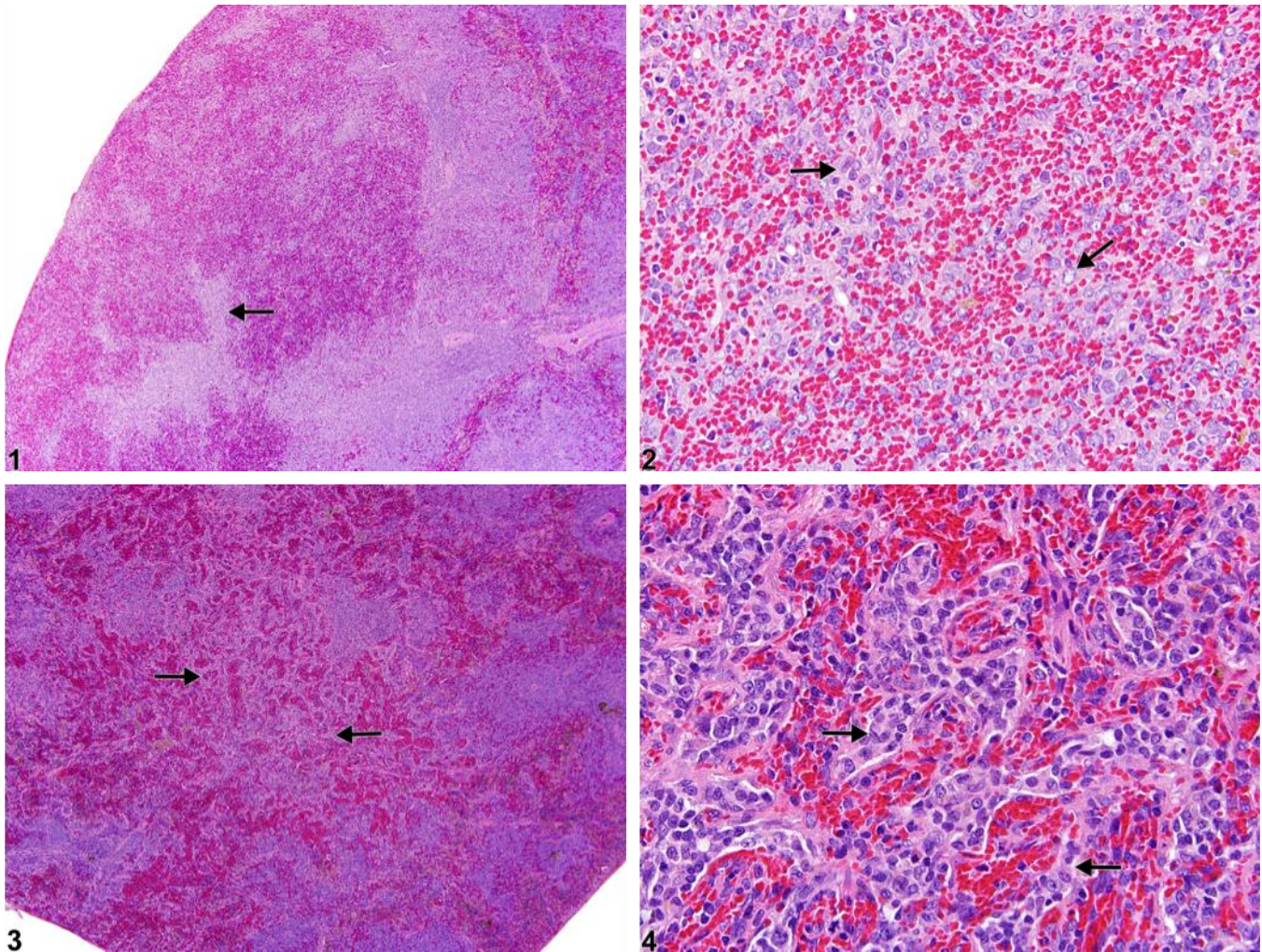
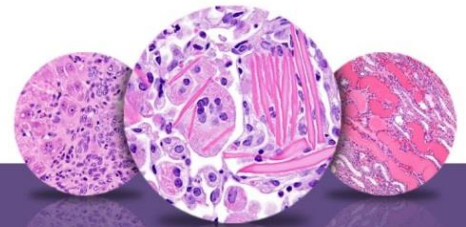


Figure Legend: **Figure 1** Spleen, Red pulp - Hyperplasia, Stromal cell in a female F344/N rat from a chronic study. Intersecting, irregular bundles and bands of stromal cells (arrow) infiltrate the splenic red pulp. **Figure 2** Spleen, Red pulp - Hyperplasia, Stromal cell in a female F344/N rat from a chronic study. Stromal cells (arrows) are spindle to polygonal in shape and have eosinophilic cytoplasm and ovoid nuclei with euchromatic chromatin. **Figure 3** Spleen, Red pulp - Hyperplasia, Stromal cell in a female F344/N rat from a chronic study. Intersecting, irregular bundles and bands of stromal cells (arrows) infiltrate the splenic red pulp. **Figure 4** Spleen, Red pulp - Hyperplasia, Stromal cell in a female F344/N rat from a chronic study. Stromal cells (arrows) are spindle to polygonal in shape and have eosinophilic cytoplasm and ovoid nuclei with euchromatic chromatin and a single nucleolus.



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Comment: Stromal cell hyperplasia in the spleen of rodents is rare (Figure 1, Figure 2, Figure 3, and Figure 4, arrows). It is typically a focal lesion primarily affecting the red pulp, but there may be infiltration into the periarteriolar lymphatic sheaths and marginal zones. In larger lesions, entrapped white pulp may be atrophied. The proliferating stromal cells are oval to elongated with eosinophilic cytoplasm and oval nuclei. The sinuses may be obliterated or replaced by capillaries, and there may be mature adipocytes within the lesion. It has been reported that, in response to congestion, systemic tumor growth, or treatment with a hematotoxic compound, the stromal cells increase either their contractile properties or their production of extracellular fibers. Thus, there may be increased collagen and expression of smooth muscle actin within the lesion. The exact cell involved in the lesion has not been identified. This lesion should not be confused with neoplasia. With stromal cell hyperplasia, there may be a heterogeneous cell population (e.g., histiocytes and fibroblasts) and a low mitotic index.

Recommendation: Whenever stromal cell hyperplasia in the spleen is present, it should be diagnosed and graded.

References:

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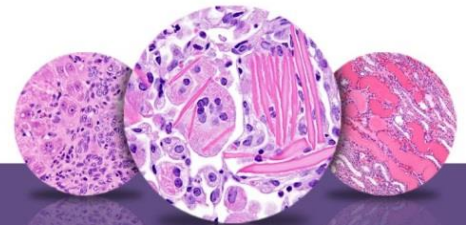
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Ruehl-Fehlert C, Hartmann E, Rinke M. 2008. Reactive and proliferative changes of splenic reticulum cells of rats investigated with special staining methods and immunohistochemistry. *Exp Toxicol Pathol* 59:281-290.

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Full Text: <http://tpx.sagepub.com/content/34/5/466.full.pdf>



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