Lymph Node – Hyperplasia, Lymphocyte

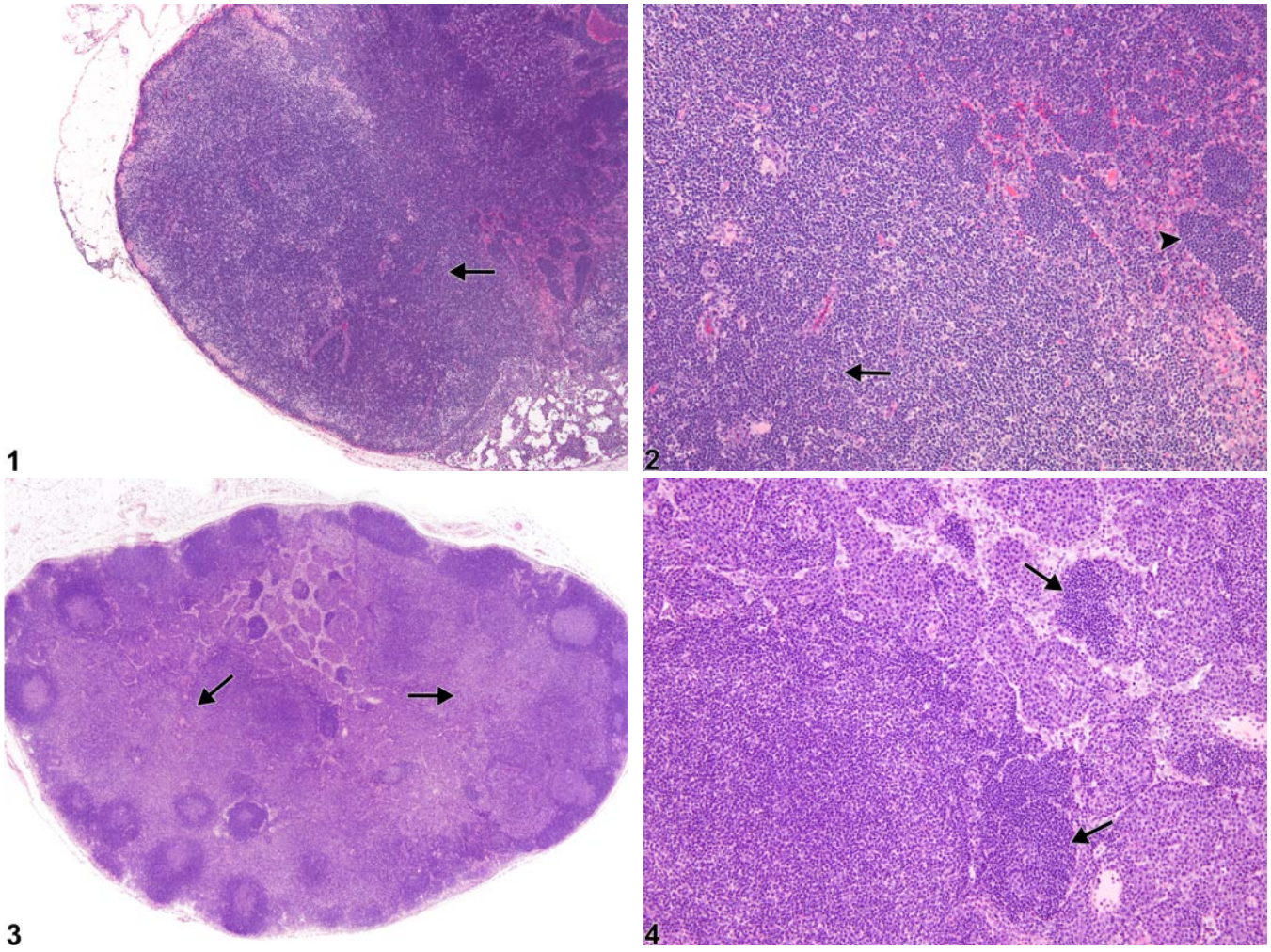
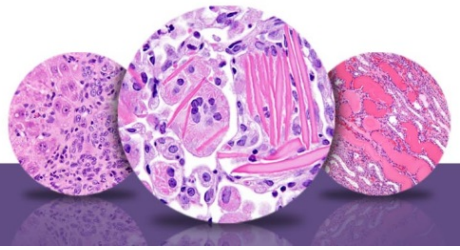


Figure Legend: **Figure 1** Lymph node - Hyperplasia, Lymphocyte in a male F344/N rat from a subchronic study. The lymph node paracortex is expanded by increased numbers of lymphocytes (arrow). **Figure 2** Lymph node - Hyperplasia, Lymphocyte in a male F344/N rat from a subchronic study (higher magnification of Figure 1). The density of paracortical lymphocytes is increased (arrow), and the number of lymphocytes is increased within the subendothelial venules (arrowhead). **Figure 3** Lymph node - Hyperplasia, Lymphocyte in a male B6C3F1/N mouse from a subchronic study. The paracortical regions are diffusely expanded (arrows). **Figure 4** Lymph node - Hyperplasia, Lymphocyte in a male B6C3F1/N mouse from a subchronic study (higher magnification of Figure 3). The paracortical region is



expanded by lymphocytes, and there is some lymphocyte hyperplasia within the medullary cords (arrows).

Comment: In rodents, lymphocyte hyperplasia may involve various anatomical compartments of the lymph nodes, including the B-cell–rich follicles (follicular), the T-cell-rich paracortex (paracortical), the medullary cords, or all three. Follicular hyperplasia is identified by an increase in number and size of primary follicles and sometimes includes stimulation that results in secondary follicles (germinal centers). Stimulated germinal centers contain large lymphoblasts (centroblasts) and increased lymphocyte apoptosis with tingible-body macrophages. Paracortical lymphocyte hyperplasia is identified by increased cell density, occasionally accompanied by increased area (Figure 1 and Figure 2, arrows). Lymphocyte hyperplasia may be accompanied by increased numbers of lymphocytes within vessels (trafficking) of lymphocytes (Figure 2, arrowhead). Lymphocyte hyperplasia can be evident to varying degrees in normal rodents, depending on location (e.g., mesenteric or mandibular lymph nodes), age, animal health status, and the plane of section. This lesion is generally considered to be a reactive or immune response and not a preneoplastic lesion. Lymphocyte hyperplasia should be distinguished from lymphoma. With hyperplasia, lymphocytes are mature, small, and normal in appearance and present within their respective compartments, whereas lymphoma typically features a monomorphic population of neoplastic lymphocytes, effacement of the nodal architecture, increased lymph node size, and invasion of adjacent tissue.

Recommendation: Whenever present, lymphocyte hyperplasia of lymph nodes should be diagnosed, localized (e.g., follicle, paracortex), and graded. Due to lymph node variability, lymphocyte hyperplasia should be diagnosed only after careful evaluation and comparison with concurrent controls. Adequacy of the section (i.e., superficial or tangential) must be taken into consideration in the diagnosis of this lesion. For some lymph nodes (e.g., popliteal), an adequate section may be difficult to obtain.

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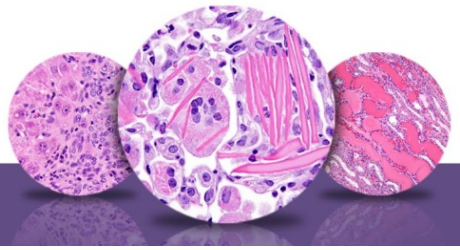

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