



NTP Nonneoplastic Lesion Atlas

Lymph Node – Hyperplasia, Plasma Cell

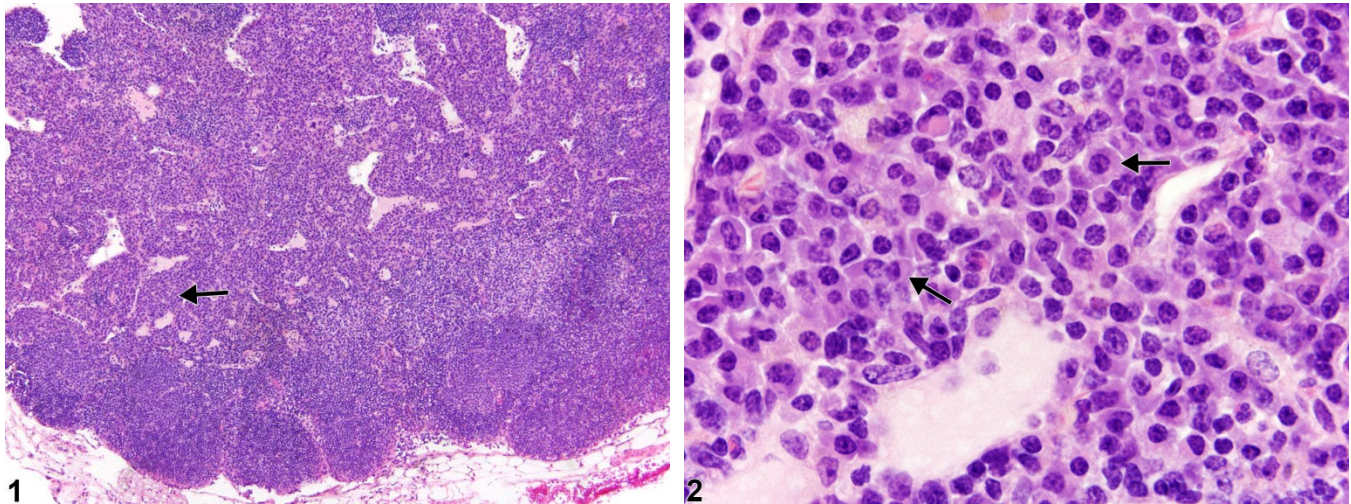


Figure Legend: **Figure 1** Lymph node - Hyperplasia, Plasma cell in a control female B6C3F1/N mouse from a chronic study. The medullary cords are markedly expanded by increased numbers of plasma cells (arrow). **Figure 2** Lymph node - Hyperplasia, Plasma cell in a control female B6C3F1/N mouse from a chronic study (higher magnification of Figure 1). Plasma cells (arrows) are present within the medullary cords.

Comment: Plasma cell hyperplasia is a common finding in the lymph nodes of rodents, particularly in the mandibular lymph nodes (Figure 1 and Figure 2), most often in response to exposure to dietary antigens. If not a background lesion, then plasma cell hyperplasia may be treatment related or associated with inflammatory, infectious, or neoplastic lesions in other organs. Plasma cells and their precursors are normally present in the medullary cords; therefore, these cords are the primary site of plasma cell hyperplasia (Figure 1). Plasma cells usually increase in response to antigenic stimulation requiring antibody production, so typically B-cell (lymphoid) hyperplasia is accompanied by plasma cell hyperplasia. Myeloid hyperplasia may also be present. Mature plasma cells have basophilic to eosinophilic cytoplasm, eccentrically located nuclei, a Golgi clear zone, and a cartwheel chromatin pattern (Figure 2, arrows). Depending on the degree and chronicity of antigenic stimulation, some Mott cells with Russell bodies may be present. With marked plasma cell hyperplasia, the lymph node may be greatly enlarged and composed mostly of plasma cells and may exhibit partial effacement of normal nodal architecture. Marked plasma cell hyperplasia may be differentiated from plasma cell neoplasia by



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the presence of plasma cell precursors, atypical plasma cells, capsular infiltration, and metastases in the latter.

Recommendation: Plasma cell hyperplasia in lymph nodes should be diagnosed and given a severity grade. However, if this lesion accompanies lymphocyte hyperplasia and/or neoplasia, it should not be diagnosed separately but should be described in the narrative.

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