

WSC 2014-2015, Conference 20

Case 1. Tissue from a dog.

(NOTE: THESE AREN'T DESCRIPTIVE SLIDES (ONE DESCRIPTION ESSENTIALLY FITS ALL) – SO THEY ARE NOT GRADED OUT. THEY ARE ALL A SIMILAR THEME WITH SLIGHTLY DIFFERENT VARIATIONS.

**MICROSCOPIC DESCRIPTION:** Spleen: The splenic red pulp is diffusely replaced by an infiltrative, nodular, unencapsulated, moderately cellular, poorly demarcated neoplasm. The neoplasm is composed of sheets of two populations of neoplastic lymphocytes on a pre-existent stroma. The predominant lymphocytes are intermediate (approximately 1.5X the size of a RBC) and have indistinct cell borders with a small amount of finely granular eosinophilic cytoplasm. Nuclei are irregularly round and often indented with a hyperchromatic nuclei. The nuclear membrane is prominently outlined by clumped chromatin. Mitotic figures are rare. Scattered among these cells are fewer larger lymphocytes with a moderate amount of granular cytoplasm, and larger vesicular nuclei (centroblasts). There are aggregates of normal lymphocytes throughout the neoplasm, and the remaining red pulp contains numerous macrophages, and plasma cells, with erythrocyte precursors and rare megakaryocytes.

**CLASSIFICATION:** Indolent nodular intermediate size low-grade lymphoma

**MORPHOLOGIC DIAGNOSIS:** Spleen: Marginal zone lymphoma

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Case 2. Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Spleen: The splenic red pulp is diffusely replaced by an infiltrative, nodular, unencapsulated, moderately cellular, poorly demarcated neoplasm. The neoplasm is composed of sheets of round cells on a pre-existent stroma. Neoplastic lymphocytes have 1.5-2x the size of an erythrocyte, and have indistinct cell borders with a small amount of finely granular eosinophilic cytoplasm. Nuclei are irregularly round and often indented with a finely stippled chromatin and a single basophilic nucleolus. The nuclear membrane is prominently outlined by clumped chromatin. Mitotic figures range up to 10 per high power field. There is extensive apoptosis within the neoplastic cells, and moderate numbers of tingible body macrophages, hemosiderin-laden macrophages and megakaryocytes scattered throughout the neoplastic infiltrate.

Lung: Neoplastic lymphocytes are present within moderate numbers with pulmonary capillaries. Within larger vessels, there are multifocal fibrin thrombi which contain neoplastic cells, cellular debris, and variably-sized globules of basophilic aggregated protein.

**CLASSIFICATION:** Nodular, large size high-grade lymphoma

**MORPHOLOGIC DIAGNOSIS:** 1. Lung, spleen: Malignant lymphoma.

2. Lung: Intravascular thrombi with protein aggregates

**NAME THE CONDITION:** Acute tumor lysis syndrome.

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Case 3. Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Lymph node: Lymph node architecture is diffusely replaced by an infiltrative, unencapsulated, moderately cellular, poorly demarcated neoplasm. The neoplasm is composed of sheets of round cells on a pre-existent stroma. Neoplastic lymphocytes have indistinct cell borders with a small amount of finely granular eosinophilic cytoplasm. Nuclei are irregularly round and often indented with a finely stippled chromatin and several small basophilic nucleoli. The nuclear membrane is prominently outlined by clumped chromatin. Mitotic figures are rare. Small lymphocytes are present in nodular aggregates at the periphery of each nodule and compressed against the fibrous stroma of the lymph node ("fading follicles").

**CLASSIFICATION:** Indolent diffuse small cell low-grade lymphoma.

**MORPHOLOGIC DIAGNOSIS:** Lymph node: T-zone lymphoma

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Case 4. Tissue from a cat.

**MICROSCOPIC DESCRIPTION:** Small intestine: Affecting about 50% of the section, the intestine is transmurally expanded by an infiltrative, unencapsulated, densely cellular, poorly demarcated neoplasm. The neoplasm is composed of a monomorphic population of neoplastic lymphocytes on a pre-existent stroma. Neoplastic lymphocytes have small to moderate amounts of eosinophilic homogenous cytoplasm with indistinct cell borders. Nuclei are irregularly round with finely clumped chromatin and 1-2 small basophilic nucleoli. Mitotic figures are rare. There are numerous lymphoid follicles scattered through the deeper portions of the neoplasm.

**CLASSIFICATION:** Diffuse low-grade small cell lymphoma.

**MORPHOLOGIC DIAGNOSIS:** Small intestine: T cell lymphoma.