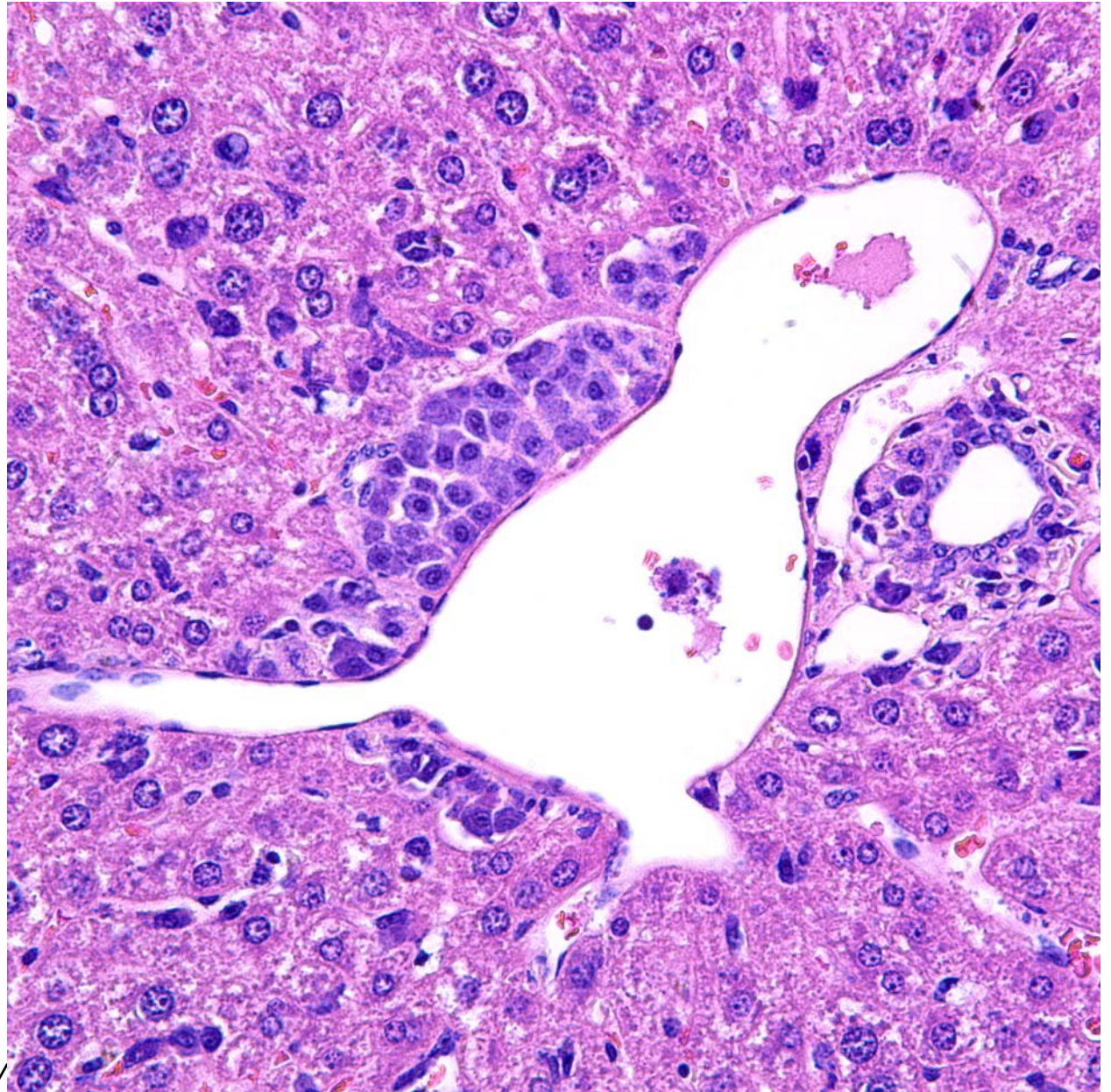


March 2007

Whats Your Diagnosis ?

Tissue from a  
mouse.

H&E.

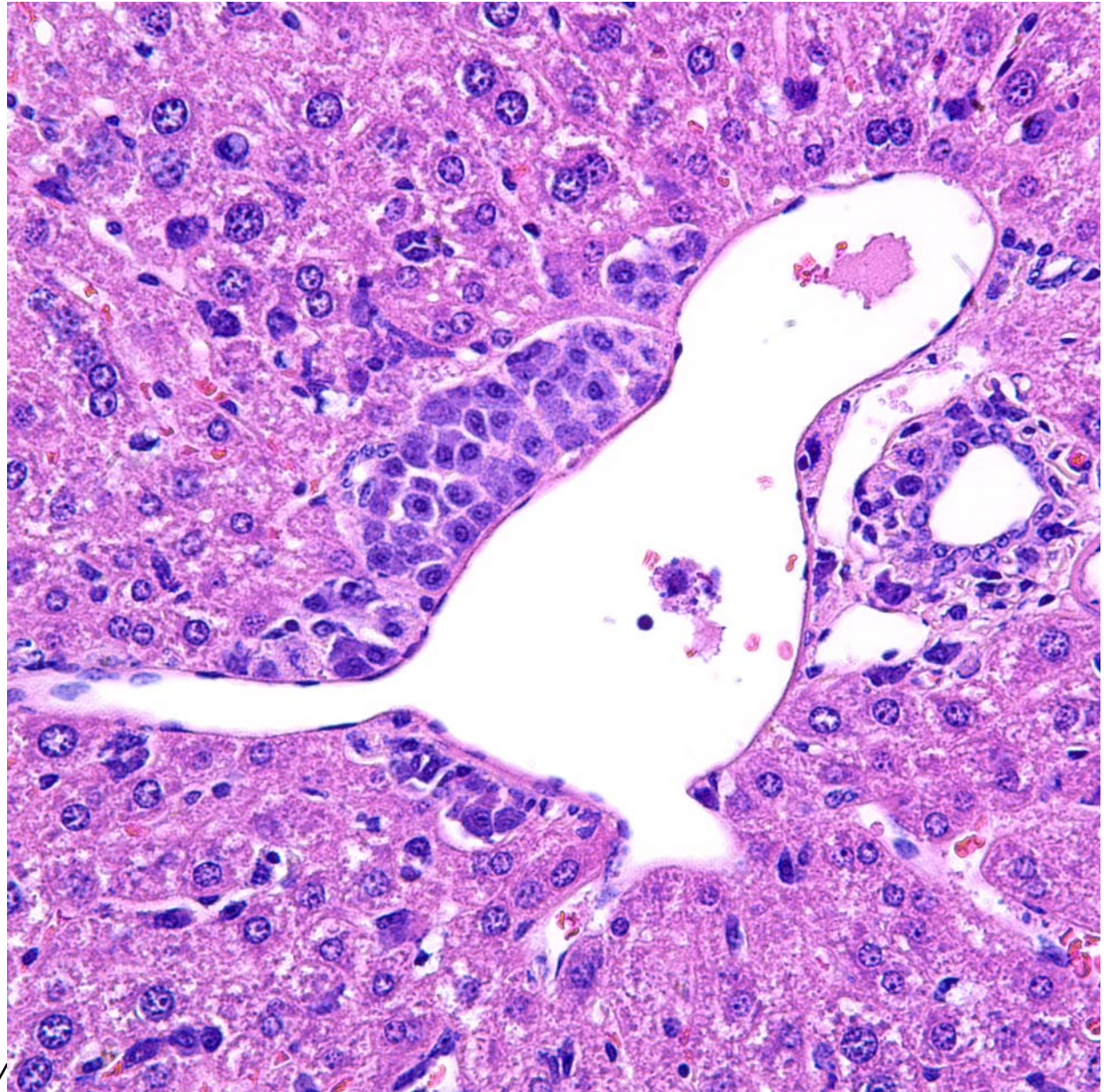


# March 2007

## Whats Your Diagnosis ?

Liver, perivascular infiltrates of round cells with abundant basophilic (also metachromatic) granules in cytoplasm, compatible with moderately differentiated mast cells.

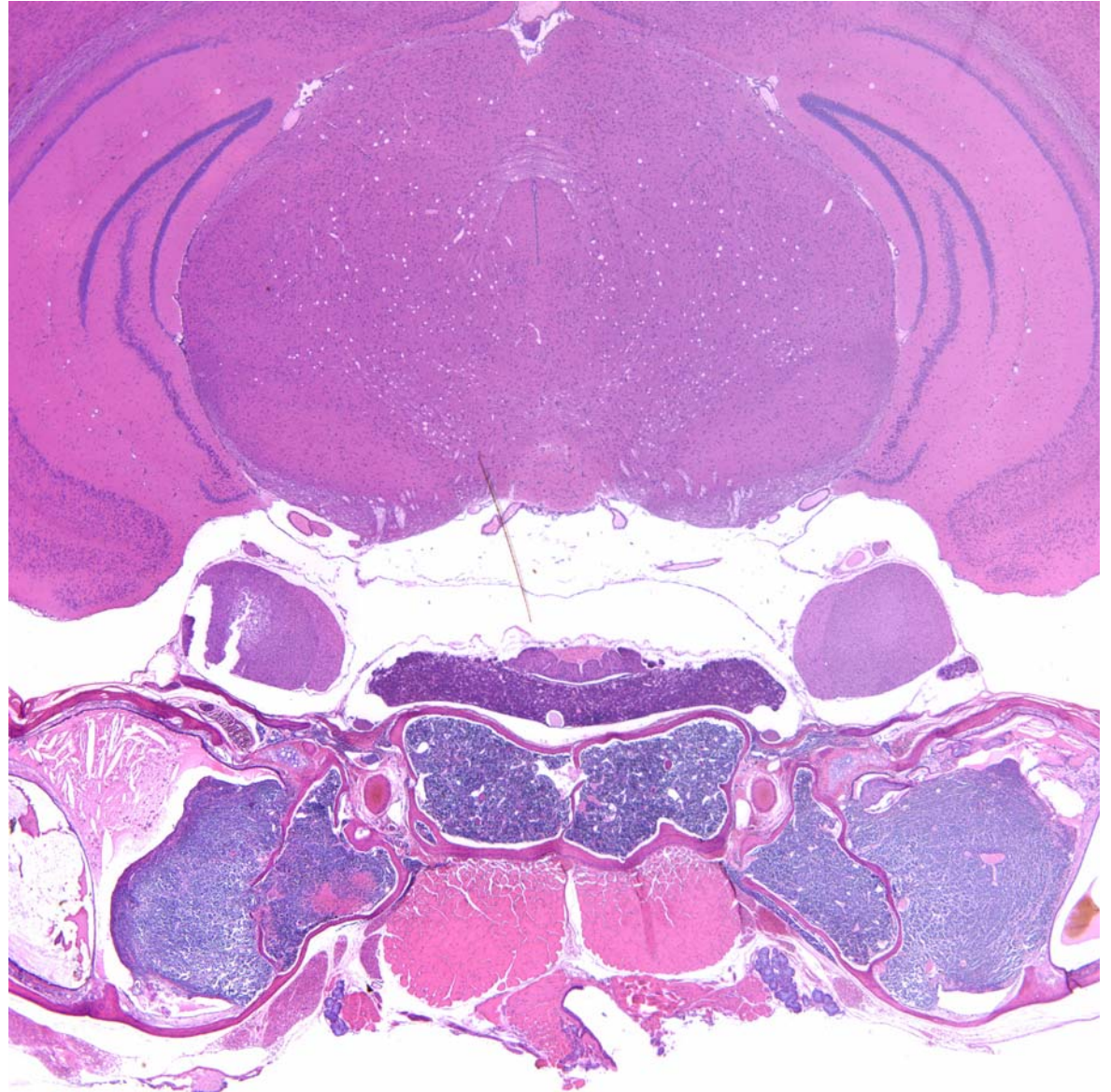
Mastocytosis,  
disseminated mast  
cell tumor.



# Mast cell tumor, Mastocytosis

## Head

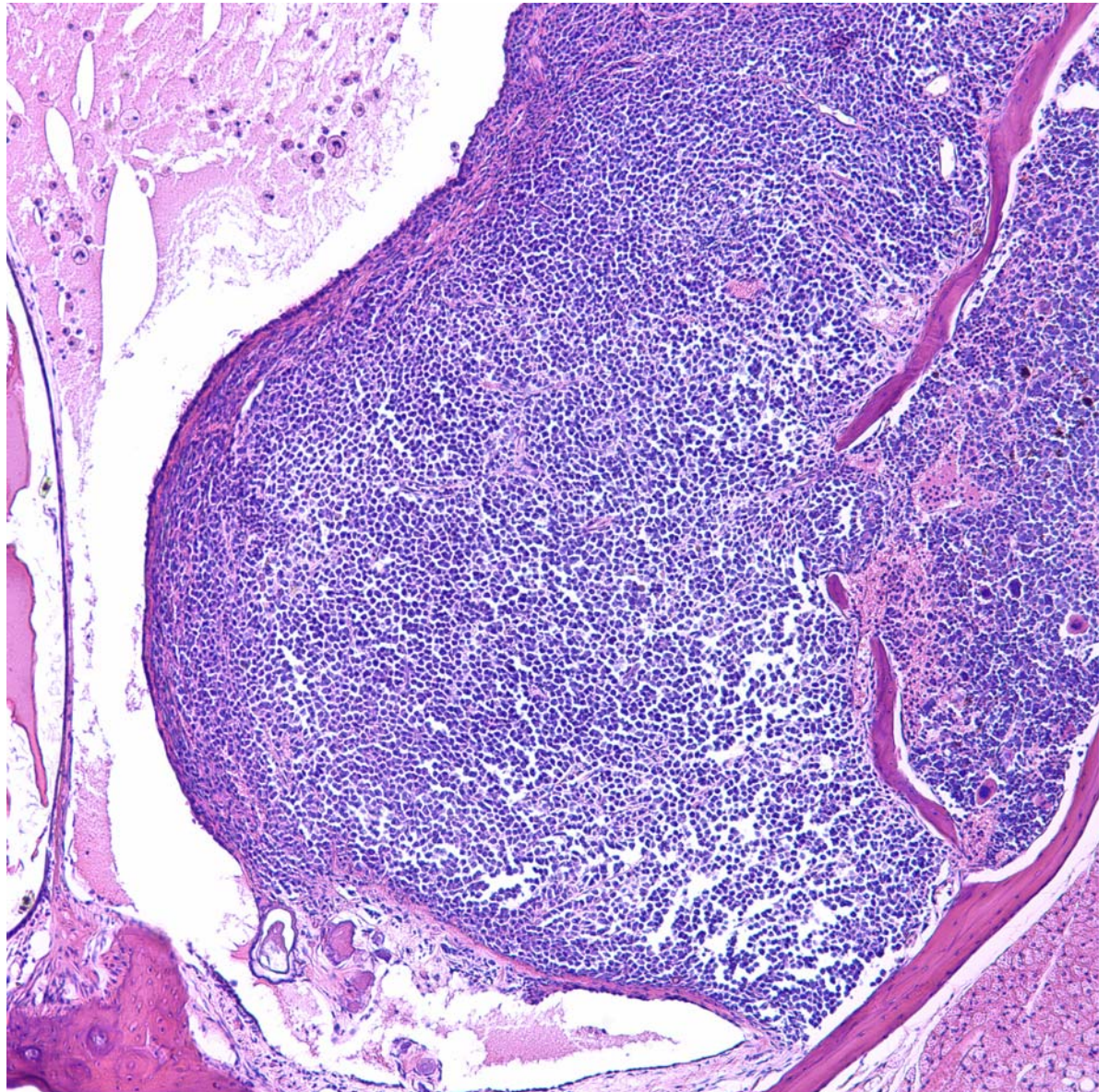
- Multifocally, Bone marrow is effaced by neoplastic mast cells that fill and infiltrate beyond medullary cavities.



# Mast cell tumor, Mastocytosis

Bone marrow,  
Middle ear

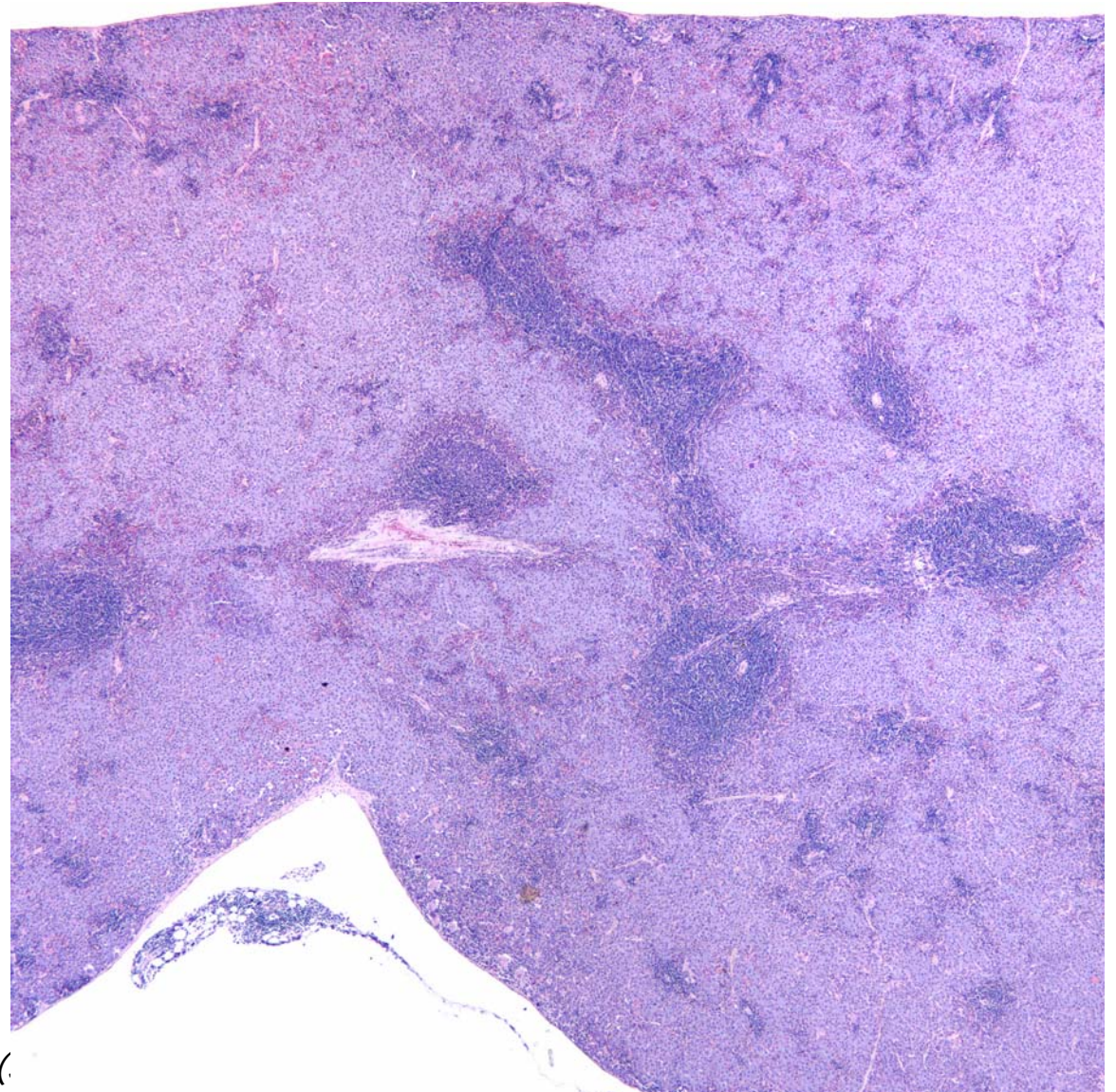
- Neoplastic mast cells invade from the marrow into the submucosa of the middle ear.



# Mast cell tumor, Mastocytosis

## Spleen

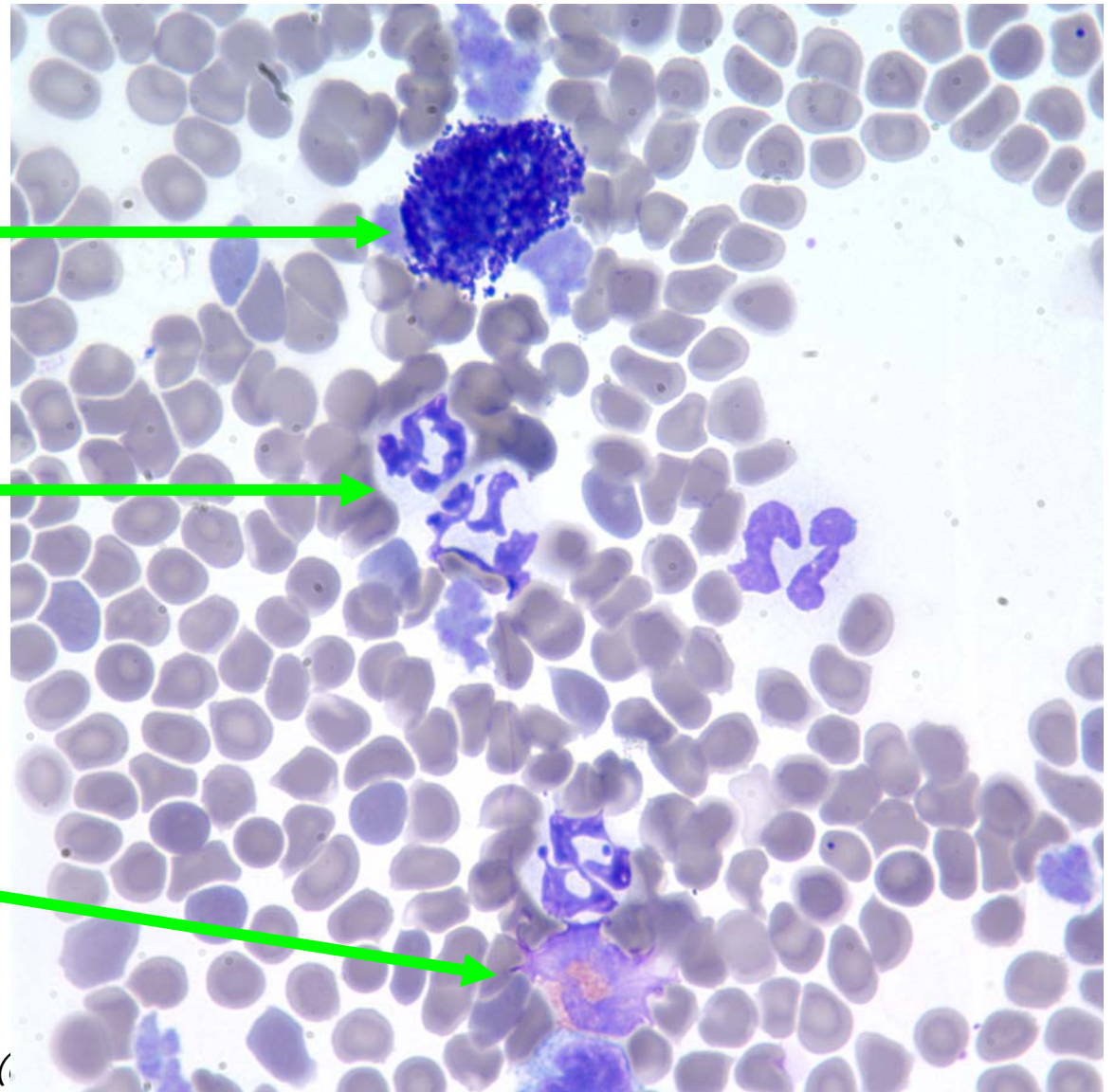
- > 1 g ! (> 10x normal)
- Normal architecture is largely effaced by sheets of homogeneous neoplastic mast cells.
- Darker blue areas are remaining PALS.



# Mast cell tumor, Mastocytosis

## Blood Smear

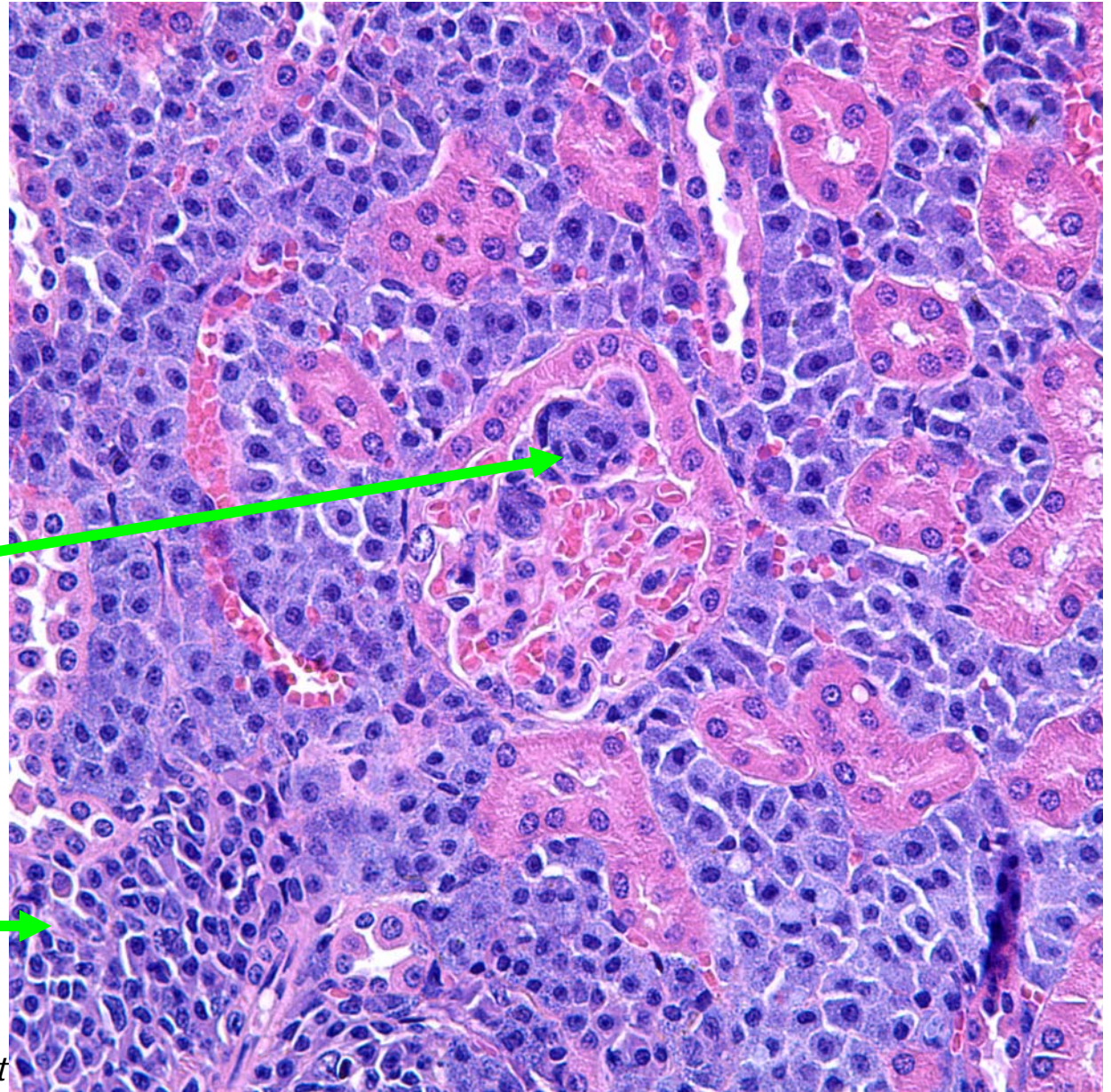
- Mast cell
- Neutrophils
- Eosinophil



# Mast cell tumor, Mastocytosis

## Kidney

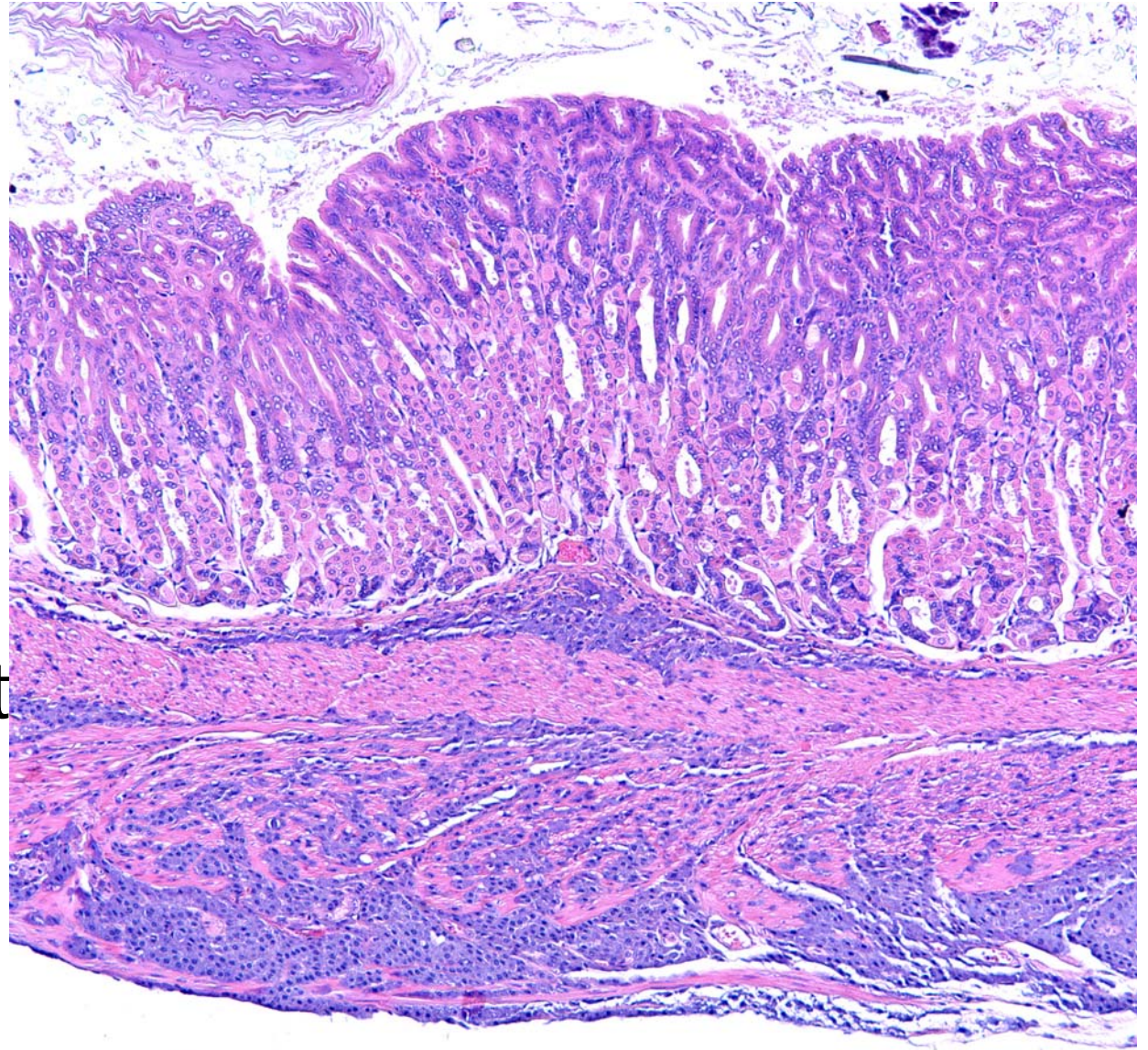
- interstitial infiltration and expansion by homogeneous population of neoplastic mast cells
- Note intravascular mast cells in glomerular tuft
- Cuboidal parietal epithelium cw male mouse
- Scattered plasma cell infiltrates



# Mast cell tumor, Mastocytosis

## Stomach

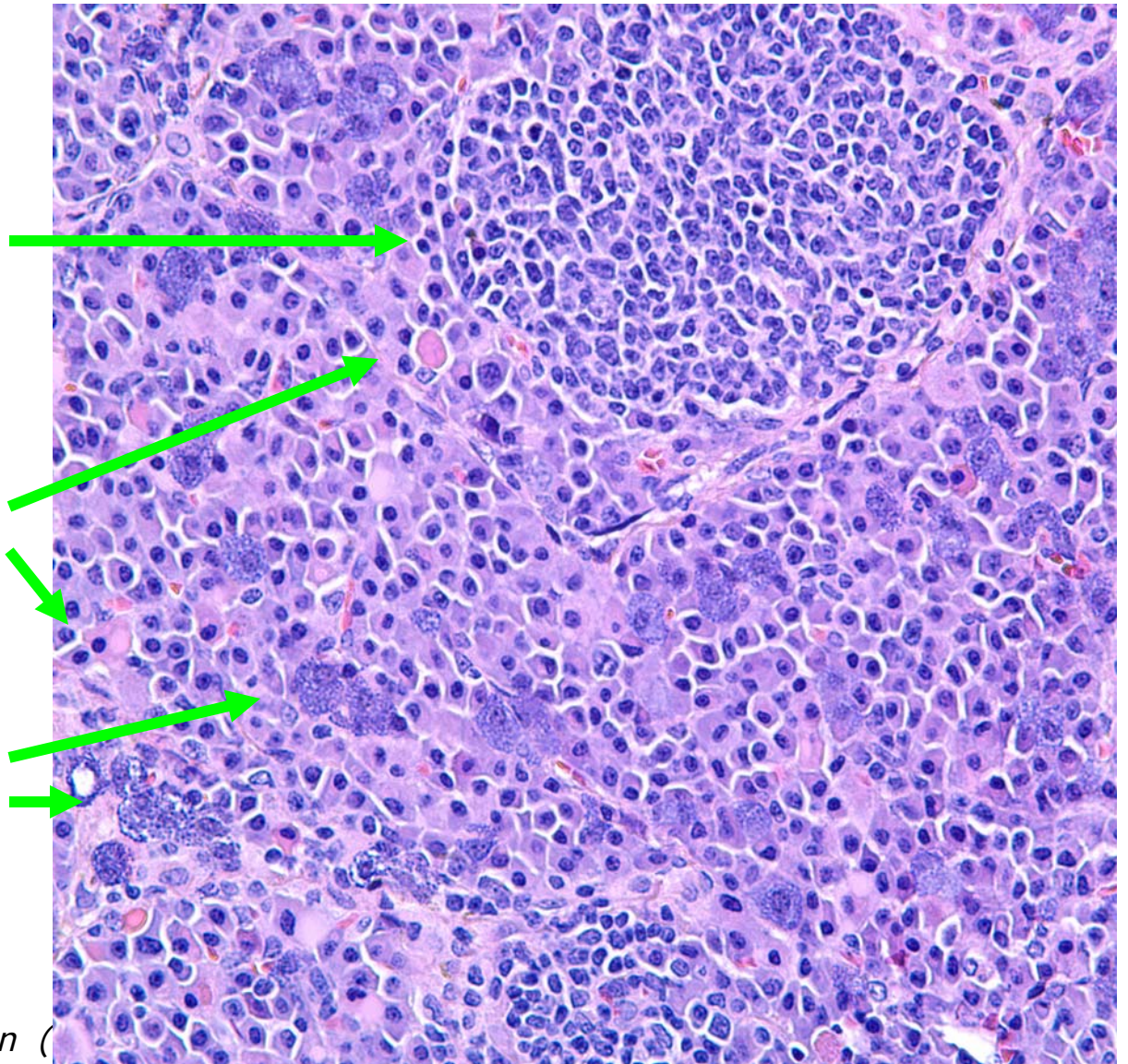
- submucosa, muscularis and serosa are infiltrated by neoplastic mast cells.



# Mast cell tumor, Mastocytosis

Lymph node,

- Lymphocyte aggregates, follicles,
- Many plasma cells,
- Individual Mott cells,
- Individual larger, distinctly granular mast cells.



# Mast cell tumor, Mastocytosis, Mast cell sarcoma, Mast cell leukemia

- Unusual but distinctive hematopoietic neoplasm in mice.

Frith, C. H., J. M. Ward, et al. (2001). Hematopoietic system. International Classification of Rodent Tumors: The Mouse. U. Mohr. Berlin, Springer: 417-452.

Frith, C. H., J. M. Ward, et al. (1993). "The morphology, immunohistochemistry, and incidence of hematopoietic neoplasms in mice and rats." Toxicol Pathol 21(2): 206-18.

Gersch, C., O. Dewald, et al. (2002). "Mast cells and macrophages in normal C57/BL/6 mice." Histochem Cell Biol 118(1): 41-9.

Kogan, S. C., J. M. Ward, et al. (2002). "Bethesda proposals for classification of nonlymphoid hematopoietic neoplasms in mice." Blood 100(1): 238-45.

Ottensmeier, C. (2001). "The classification of lymphomas and leukemias." Chemico-Biological Interactions 135-136: 653.

Ward, J. M. (2006). "Lymphomas and leukemias in mice." Experimental and Toxicologic Pathology 57(5-6): 377.

