CYTOLOGY EVALUATION ALGORITHM

COLLECT DIAGNOSTIC SAMPLE

INFLAMMATORY

Suppurative

- Degenerate (Y/N)
- DDx – bacteria, acute tissue injury/necrosis. Look for intracellular organisms

Pyogranulomatous

- DDx – chronic inflammation, lick granuloma, vaccine reaction, foreign body, fungal or bacterial infection

Histiocytic

- Same as above
- DDx – specific bacterial organisms (Mycobacterium, Nocardia, or Actinomyces spp.)

Eosinophilic

- DDx – hypersensitivity/allergy, eosinophilic granuloma complex, parasitism, fungal, or neoplastic (MCT, LSA, etc.)

TISSUE CELLS/NEOPLASIA

Round

Individualized cells with apparent cytoplasmic margins.

- Histiocytoma
- Plasma cell tumor
- Lymphoma
- Mast cell tumor
- TVT

Epithelial

Round to polygonal with cell-cell junctions

Mesenchymal

Polygonal to elongated cells with wispy cytoplasmic margins. Nuclei may be elongated.

Many different types. Dependent on morphology and location

Once neoplasia is confirmed, assess for criteria of malignancy (≥3 to call something malignant). NOTE: not all malignant neoplasms have to meet this criteria (lymphoma, other round cell tumors, etc.)

MIXED

Inflammatory cells + tissue cells

Consider whether the inflammation is primary or secondary. For example, SCC can cause inflammation and inflammation can cause reactive fibroplasia

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