Salivary Glands: Diagnostic Limitations And Pitfalls In Aspiration Cytopathology

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Questions To Be Answered
- Is the aspirate from the salivary gland? - "Know your anatomy"
- Is it representative of the palpable lesion?
- Is it normal?
- Is it neoplastic?
- Is it malignant?
- Is it possible to make a specific tumor typing?

Diagnostic Profile
- Diagnostic sensitivity 81% - 100% ~90%
- Diagnostic specificity 94% - 100% ~95%
- Diagnostic accuracy
  - Benign neoplasms 90%
  - Malignant neoplasms 75%
  - Accuracy of tumor typing 61% - 80%

If not absolutely certain about the tumor type, simply generate a list of differential diagnosis

Diagnostic Pitfalls
- False Negative
  - Heterogeneous cytomorphology
  - Cystic cancers
  - Sampling errors
- False Positive
  - Regenerative epithelial atypia
  - Squamous metaplasia in sialadenitis/Warthin tumor
  - Hypercellularity in pleomorphic adenoma
  - Hyaline globules in monomorphic adenoma

Pleomorphic Adenoma

Epithelium/myoepithelium
Mesenchymal cells/stromal matrix
Diagnostic Pitfalls

- Hypercellularity
- Epithelial Atypia
- Myoepithelial Predominance
- Stromal Atypia
- Metaplastic Changes
  - Squamous
  - Mucinous
  - Oncocytic
  - Spindle cell
Hypercellularity

Epithelial Atypia

Myoepithelial Predominance
Stromal Atypia

Metaplastic Changes
Warthin Tumor
- Oncocytes
- Lymphocytes
- Cystic Debris
Diagnostic Pitfalls

- Oncocytoma
- Squamous cell carcinoma
- Mucoepidermoid carcinoma
- Malignant lymphoma

Neoplasms With Oncocytic Cells

- Warthin tumor
- Oncocytoma
- Oncocytic carcinoma
- Pleomorphic adenoma
- Metastatic tumors (Hurthle cell ca)
Adenoid Cystic Carcinoma
Neoplasms With “Basaloid” Cells

- Pleomorphic adenoma
- Monomorphic adenoma (Basal cell)
- Adenoid cystic carcinoma
- PLGA
- Basal cell carcinoma
- Basaloid squamous cell carcinoma
- SRBCTs
Neoplasms With Prominent Myxo-hyaline Matrix

- Pleomorphic adenoma
- Adenoid cystic carcinoma
- Polymorphous low-grade adenocarcinoma
- Epithelial-myoepithelial carcinoma
Acinic Cell Carcinoma

- Serous-type acini
- Arborizing capillaries
- Bare nuclei/lymphocytes

Papillary Cystic Variant
Diagnostic Pitfalls

- Benign serous epithelium
- Chronic sialadenitis/benign lymph infiltrates
- Benign cysts
- Oncocytoma
- Warthin tumor
- Mucoepidermoid carcinoma
- Ductal adenocarcinoma

Lymphoid Lesions