When cytology is more useful than histology

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Cytology is the only chance

1. No histology
2. Tissue specimen is suboptimal
3. Cytology complements tissue specimen
4. Cytology makes histology (cell block)

TBNA
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• “blind” or US-guided sampling
• cytological specimen – fine needle 22G
• minute sample!!!
• rapid on-site evaluation
• one drop → smear
• rinse the needle
  → cytospins → immunocytochemistry
  → flow cytometry
  → predictive biomarker testing
  → cell block
  → microbiology
What is targeted by TBNA?
indications

mediastinum
• lymph nodes
  (lung cancer staging)
  (nonpulmonary metastases)
  (nonneoplastic lesions)
• tumors
  (lymphomas, etc)
• cysts

lungs
• intrapulmonary lymph nodes
• tumors
  (peripheral, submucosal)
  (benign)
• inflammatory and tumor-like lesions

importance of clinical information
ROSE for TBNA is challenging

- Knowledge of normal cytology
- Expected baseline cellularity
- Possible contaminants
- Abnormal morphology
  - Quantity
  - Quality
- Pitfalls
  - Bland neoplasm morphology
  - Reactive versus neoplastic process
- Reasons of nondiagnostic specimens
Criteria of specimen adequacy

• No well established criteria
• No widely accepted criteria
• Criteria are target dependant
• Adequate specimen should explain pathology
Adequacy criteria

**Adequate**

(sufficient material, provisional diagnosis possible, representative of…)

1. Neoplastic cells
2. Enough, well preserved diagnostic cells
3. Lymphocytes and or pigmented macrophages

**Inadequate**

(provisional diagnosis not possible, nonrepresentative specimen)

1. No lymphocytes
2. Necrosis
3. Blood
4. Acellular/hypocellular specimen
5. No cells preserved (poor morphology)
Inadequate specimen
Lymphocytes – indicator of lymph node adequacy

1. One smear with an area of many lymphocytes or follicular dendritic cells
2. Lymphocytes > 30% cellularity
3. > 40 lymphocytes / HPF in most cellular area
4. > 100 lymphocytes / LPF in > 5 fields
Adequate & diagnostic