

When cytology is more useful than histology

**Izidor Kern
University Clinic Golnik
Slovenia**

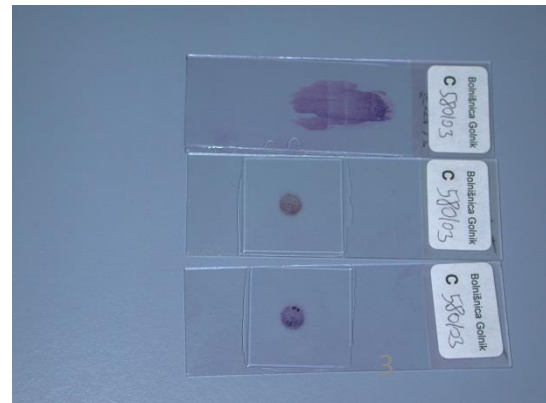
Cytology is the only chance

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

TBNA

TBNA

- “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

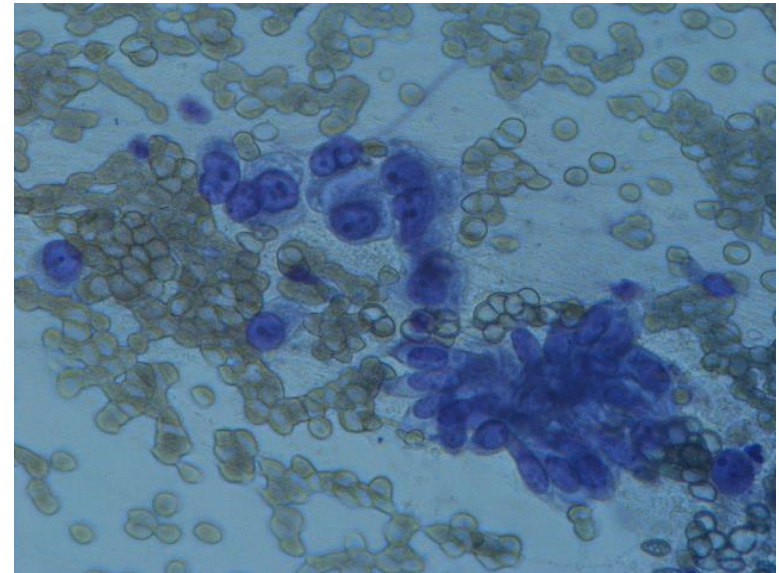
lungs

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

importance of clinical information

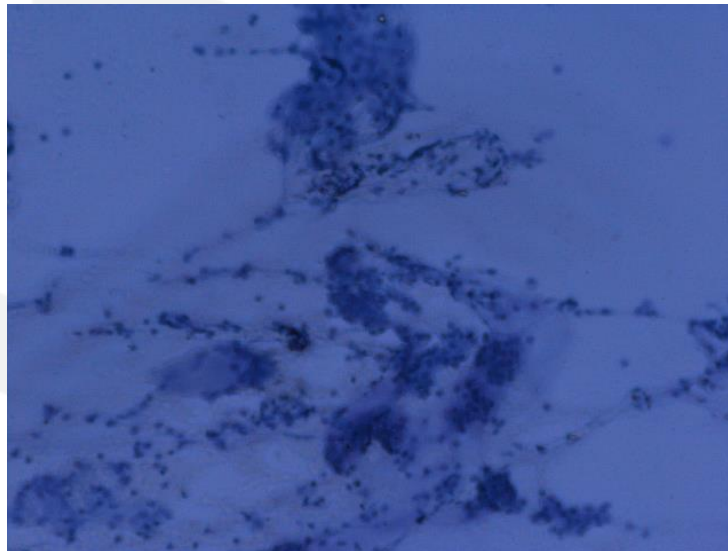
ROSE for TBNA is challenging

- 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...)

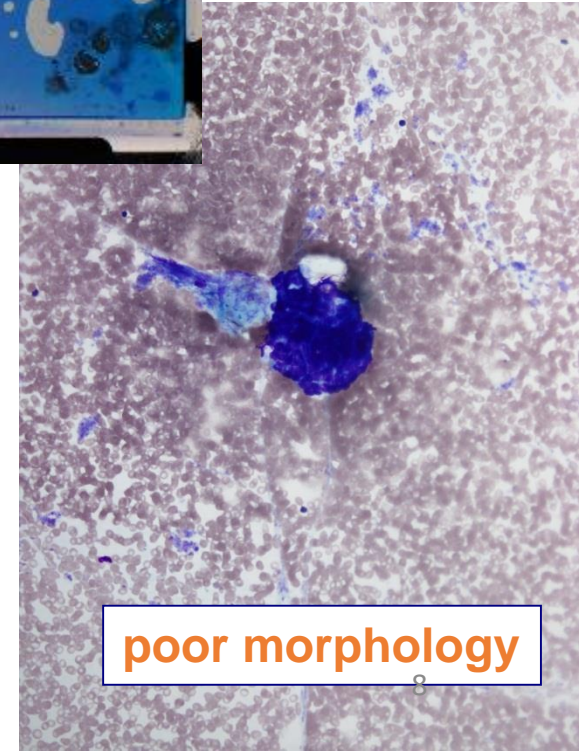
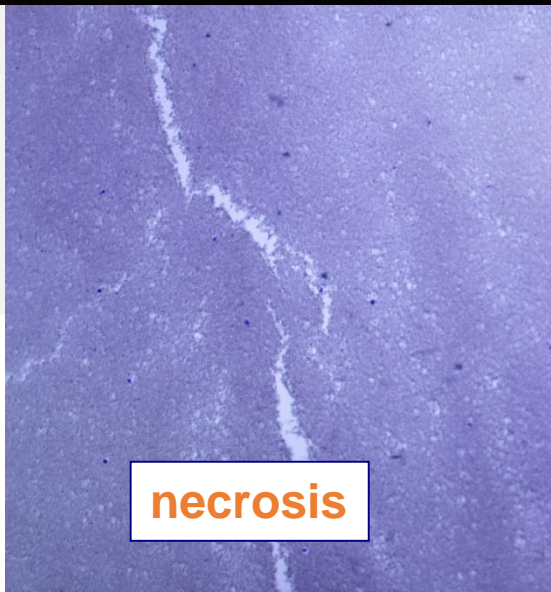
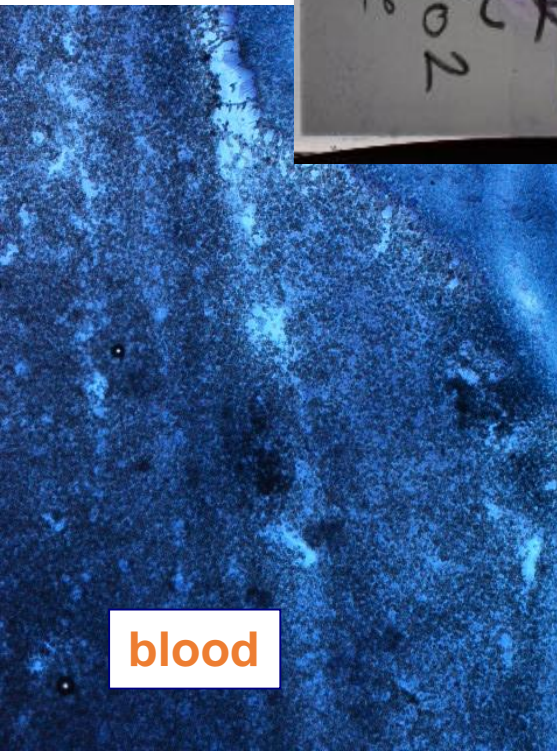
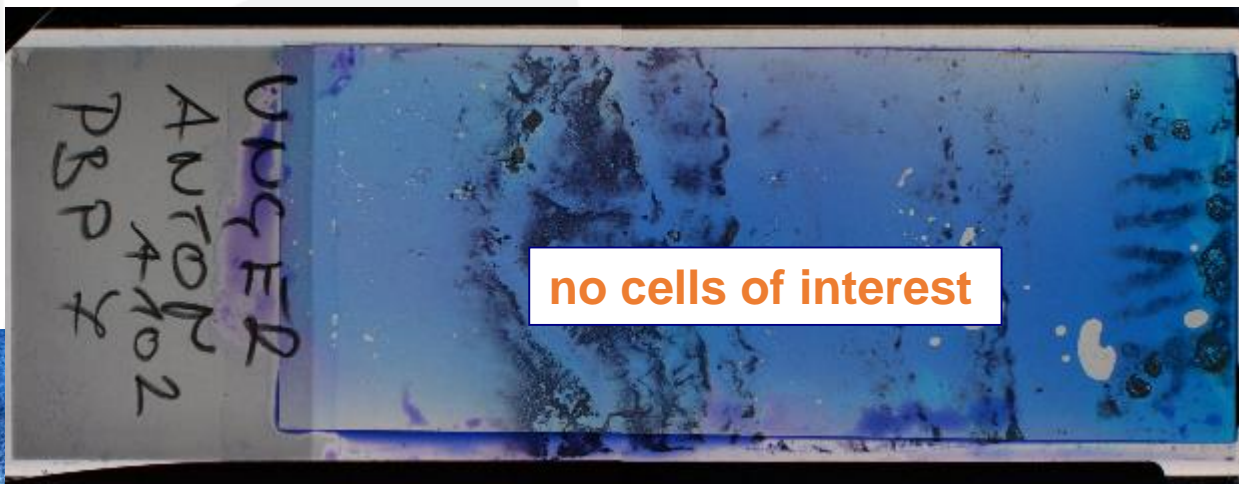
1. Neoplastic cells
2. Enough, well preserved diagnostic cells
3. lymphocytes and or pigmented macrophages

Inadequate

(provisional diagnosis not possible, nonrepresentative specimen)

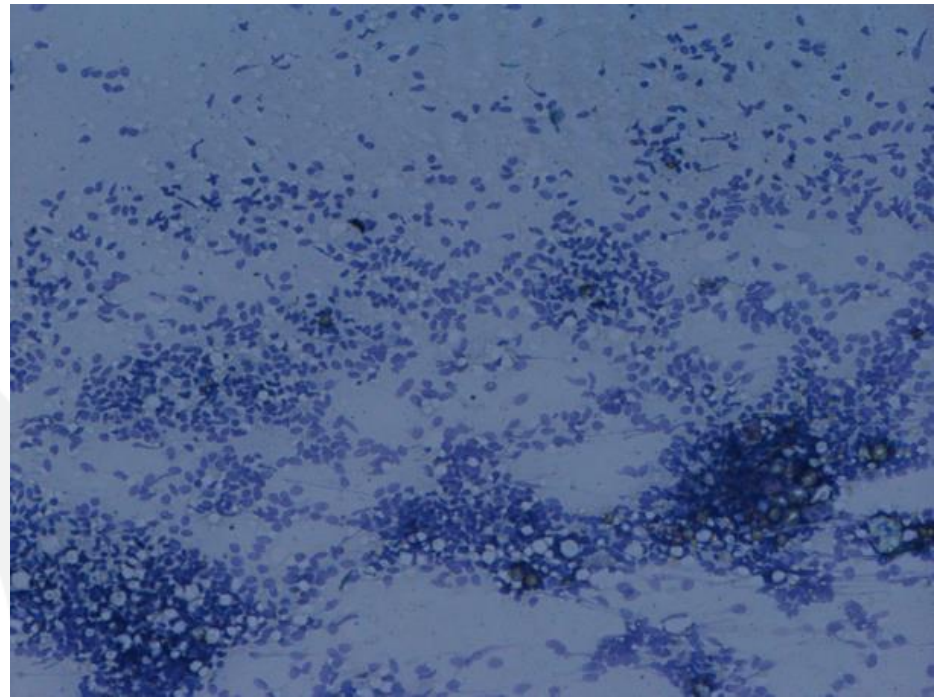
1. no lymphocytes
2. necrosis
3. blood
4. Acellular/hypocellular specimen
5. No cells preserved (poor morphology)

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

