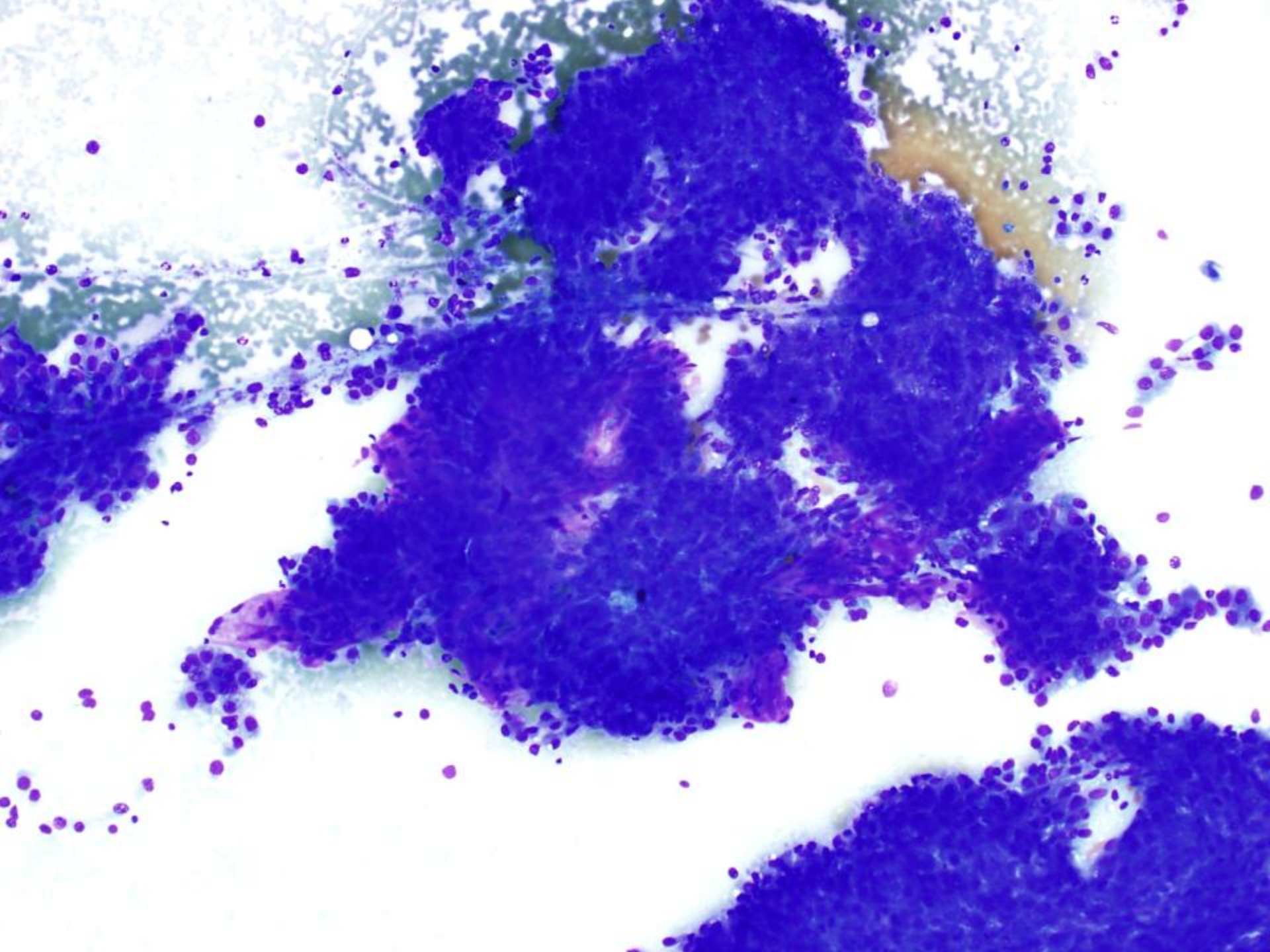


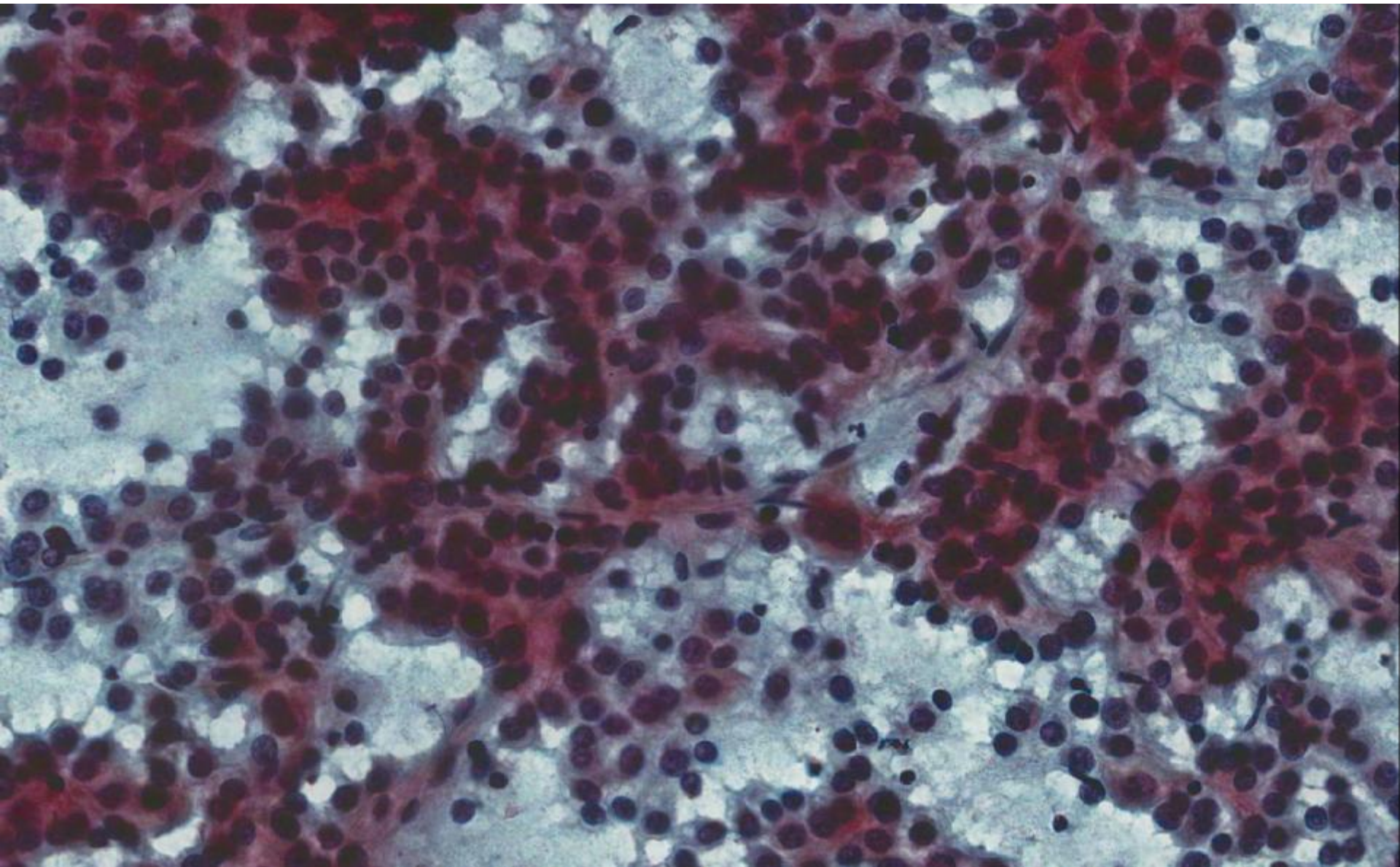
Interesting Case Conference

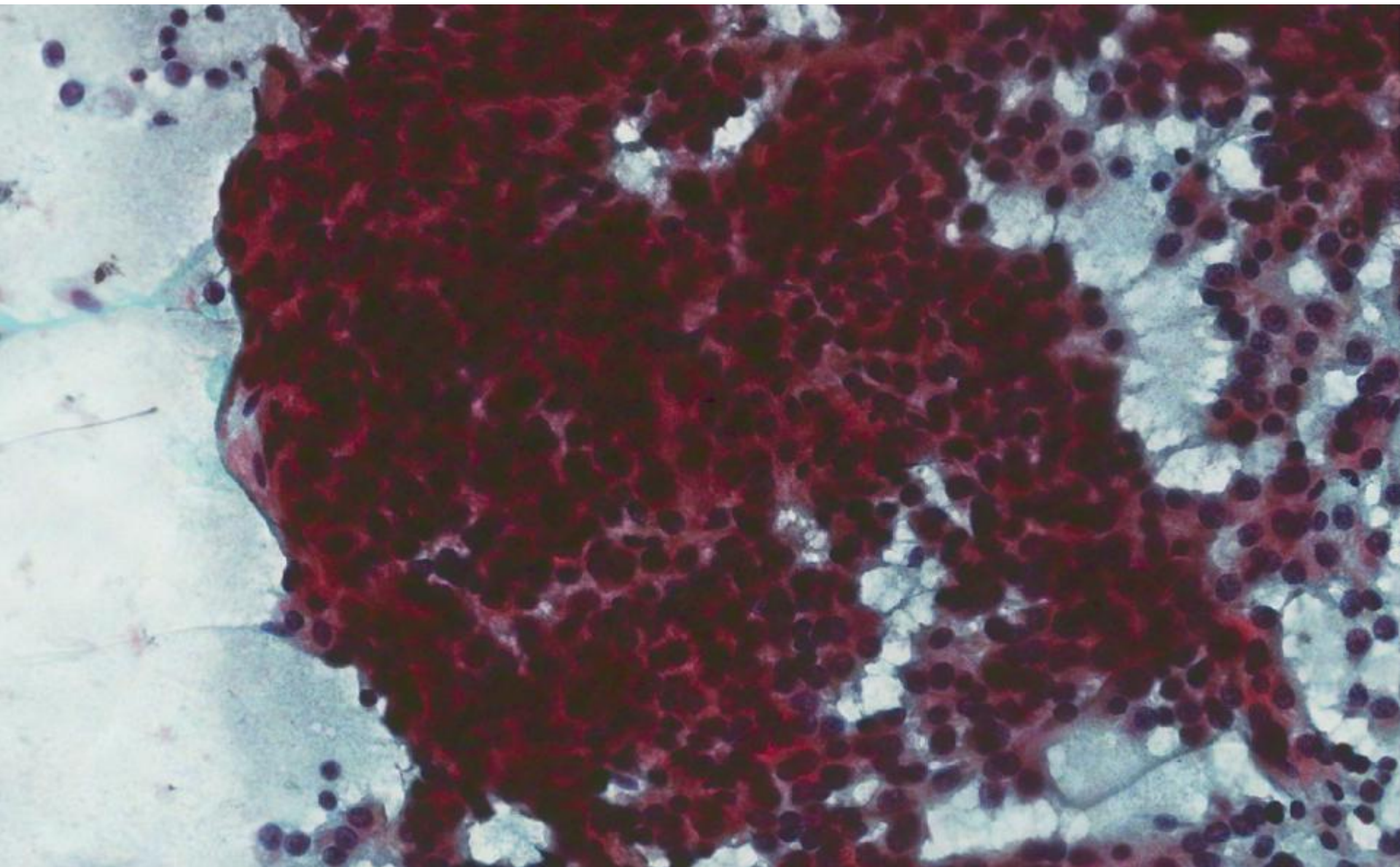
Sept 30, 2013

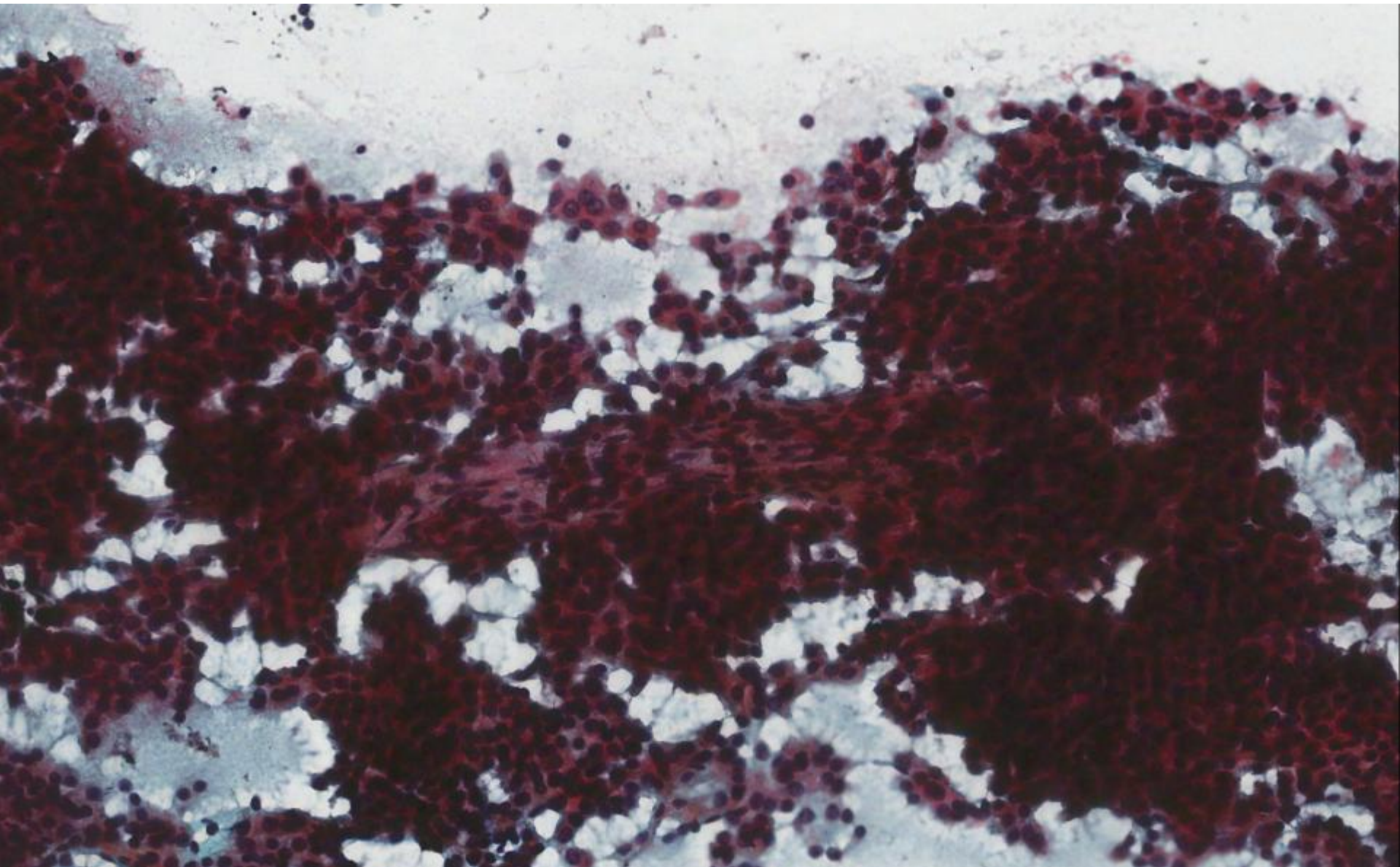
History

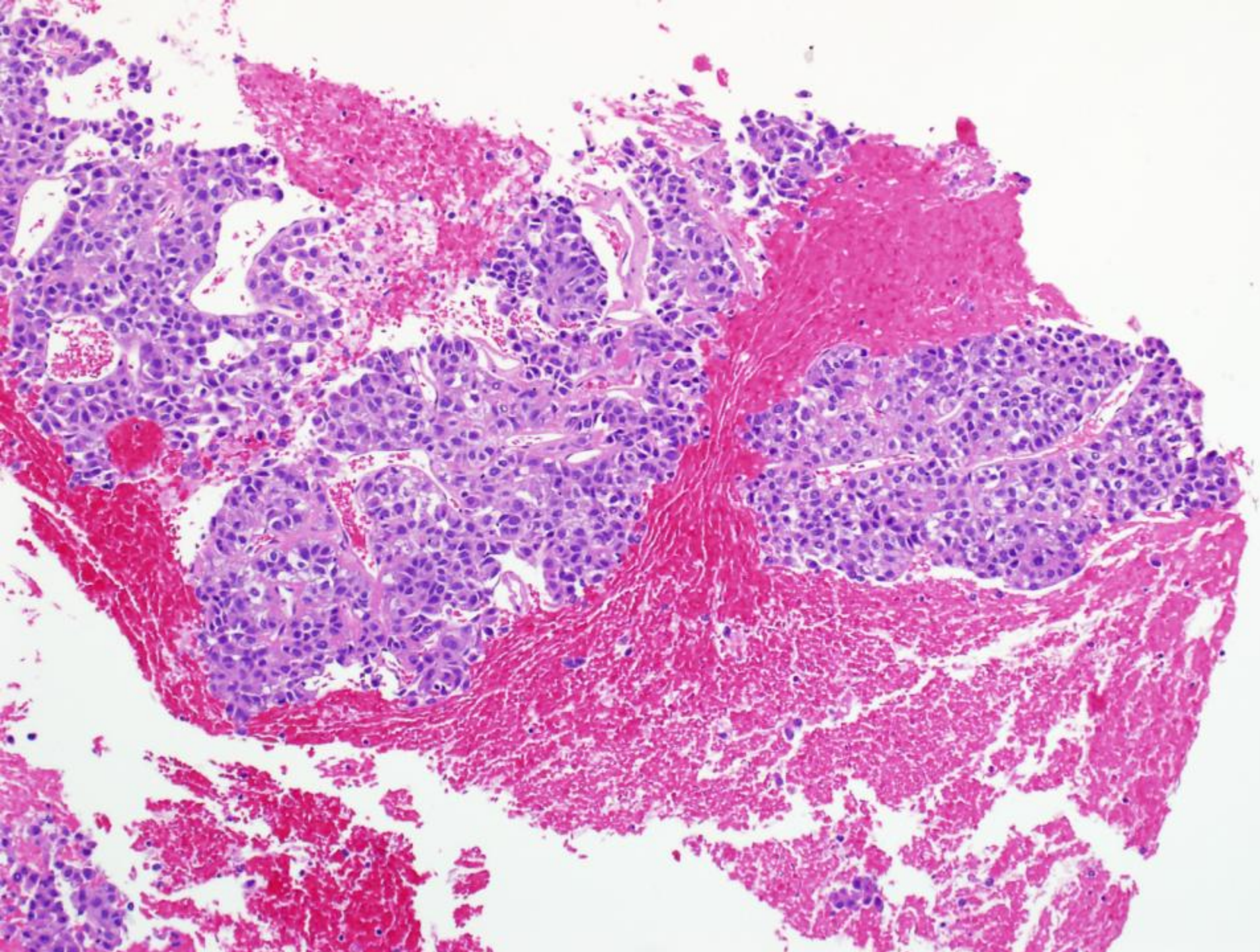
- Consult case
- 78 yo Man
- Liver mass (solitary)

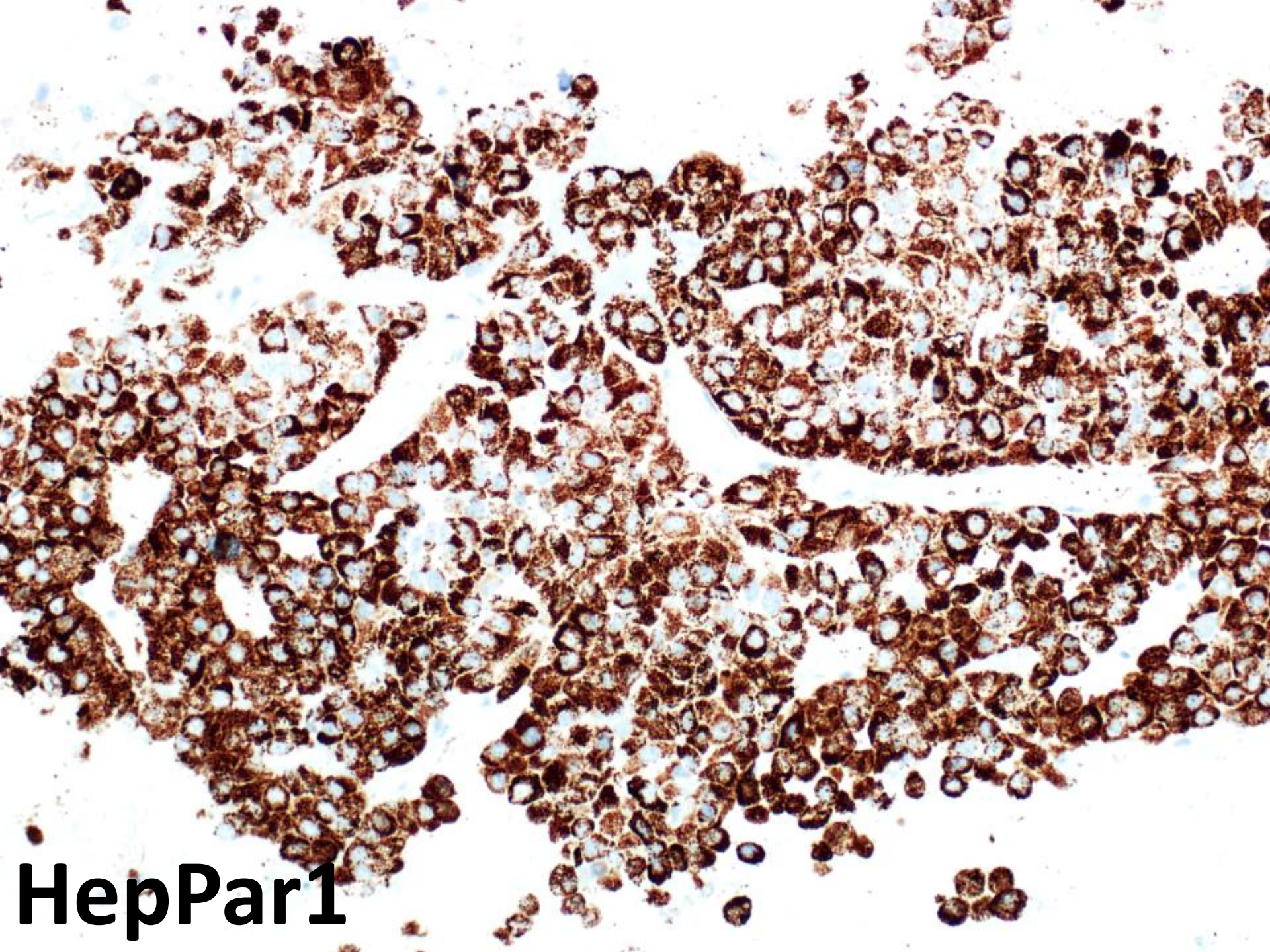




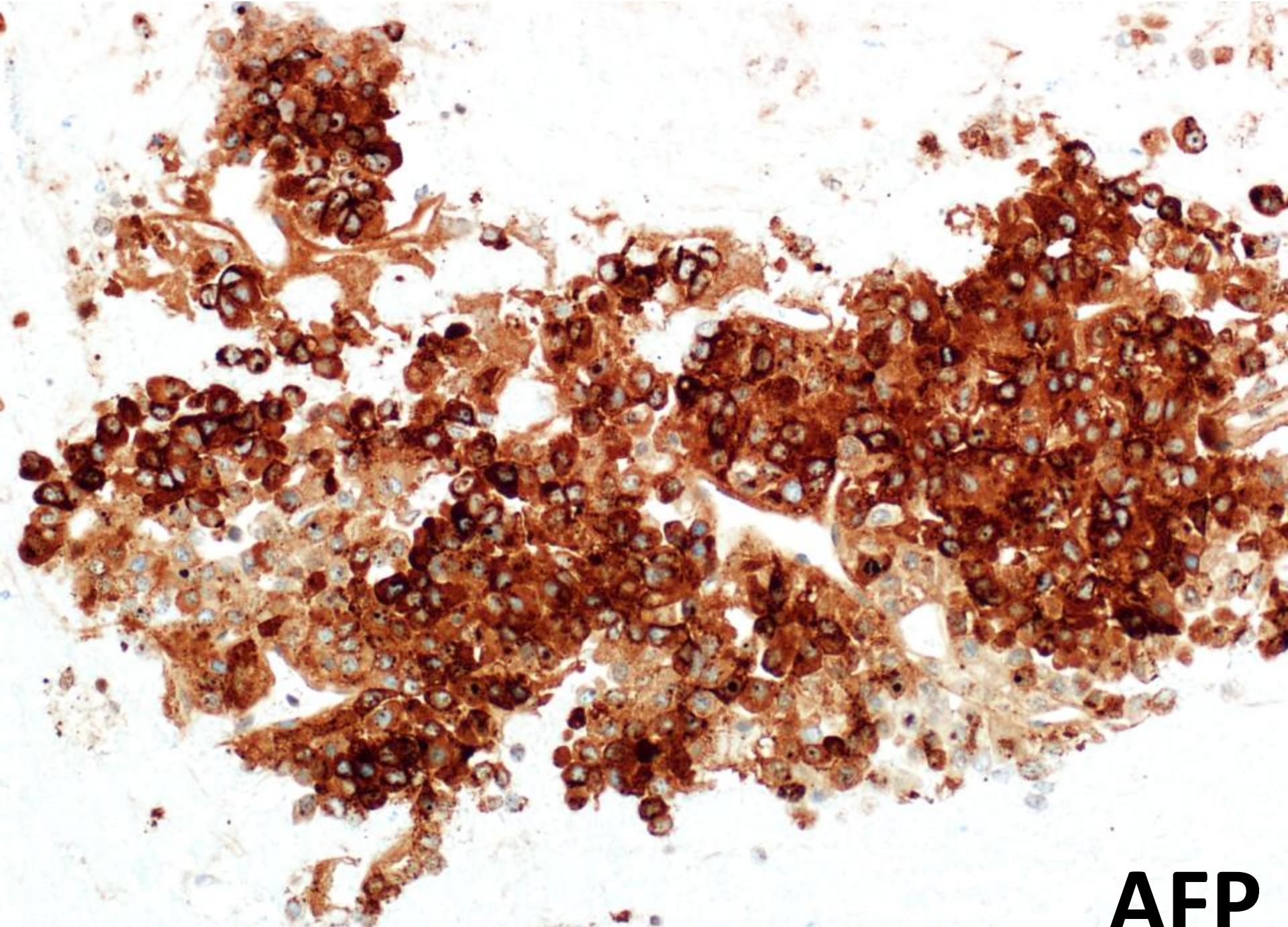








HepPar1



AFP

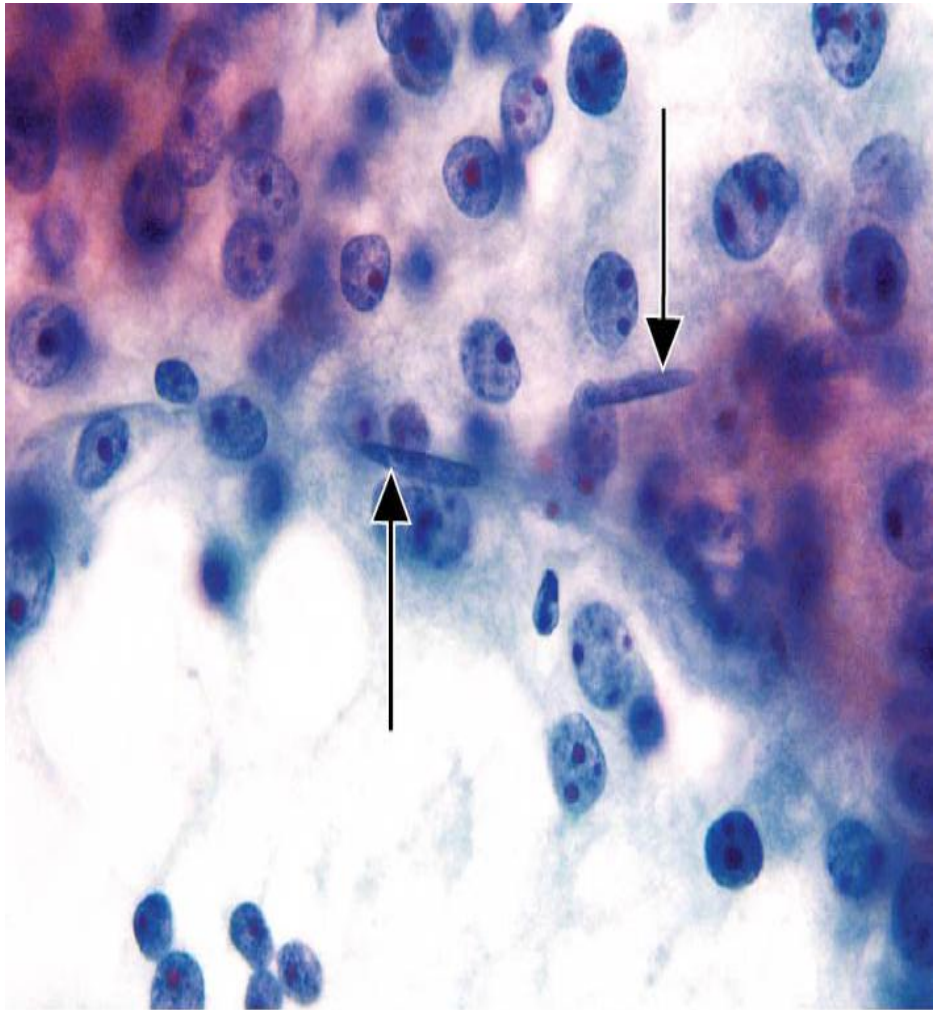
Dx: Hepatocellular Carcinoma

- S/O: Positive for hepatocellular carcinoma (HCC)
- Most common liver primary tumor
- Clinical
 - Incidence Asia/Africa > US/Europe
 - US, age > 50 setting of cirrhosis
 - Solitary, multiple nodules, or diffusely enlargement

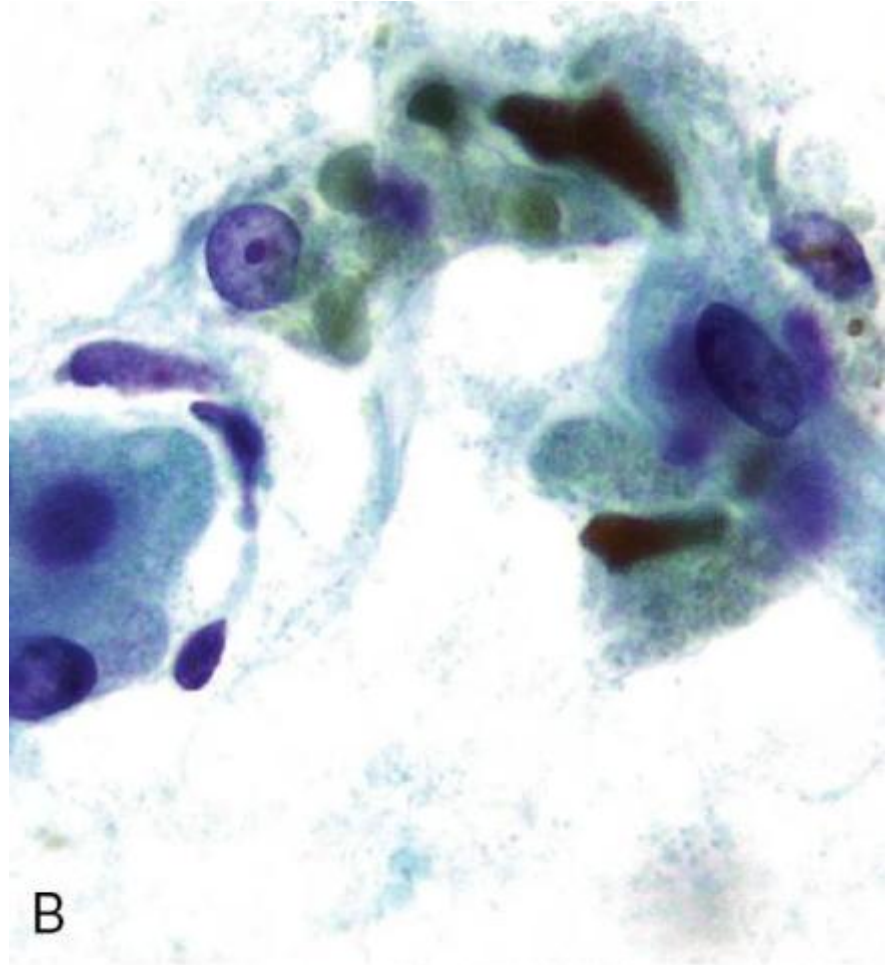
HCC in cytology

- **Well differentiated and poorly differentiated HCC can be challenging**
- **Well differentiated, DDX**
 - Regenerating nodules of cirrhosis
 - Hepatic adenoma
 - Focal nodular hyperplasia
- **Features favoring benign**
 - Evenly spaced cellular arrangements
 - Normal n/c ratio
 - Mild atypia
- **Features favoring malignant**
 - Thickened trabeculae
 - Isolated and atypical naked nuclei
 - Increased N/C ratio
 - Cellular monomorphism
 - Macronucleoli
 - Intranuclear pseudoinclusions
 - Multinucleated cells
 - Mitotic figures
 - Traversing capillaries
 - Endothelial wrapping

Text book photos of key features



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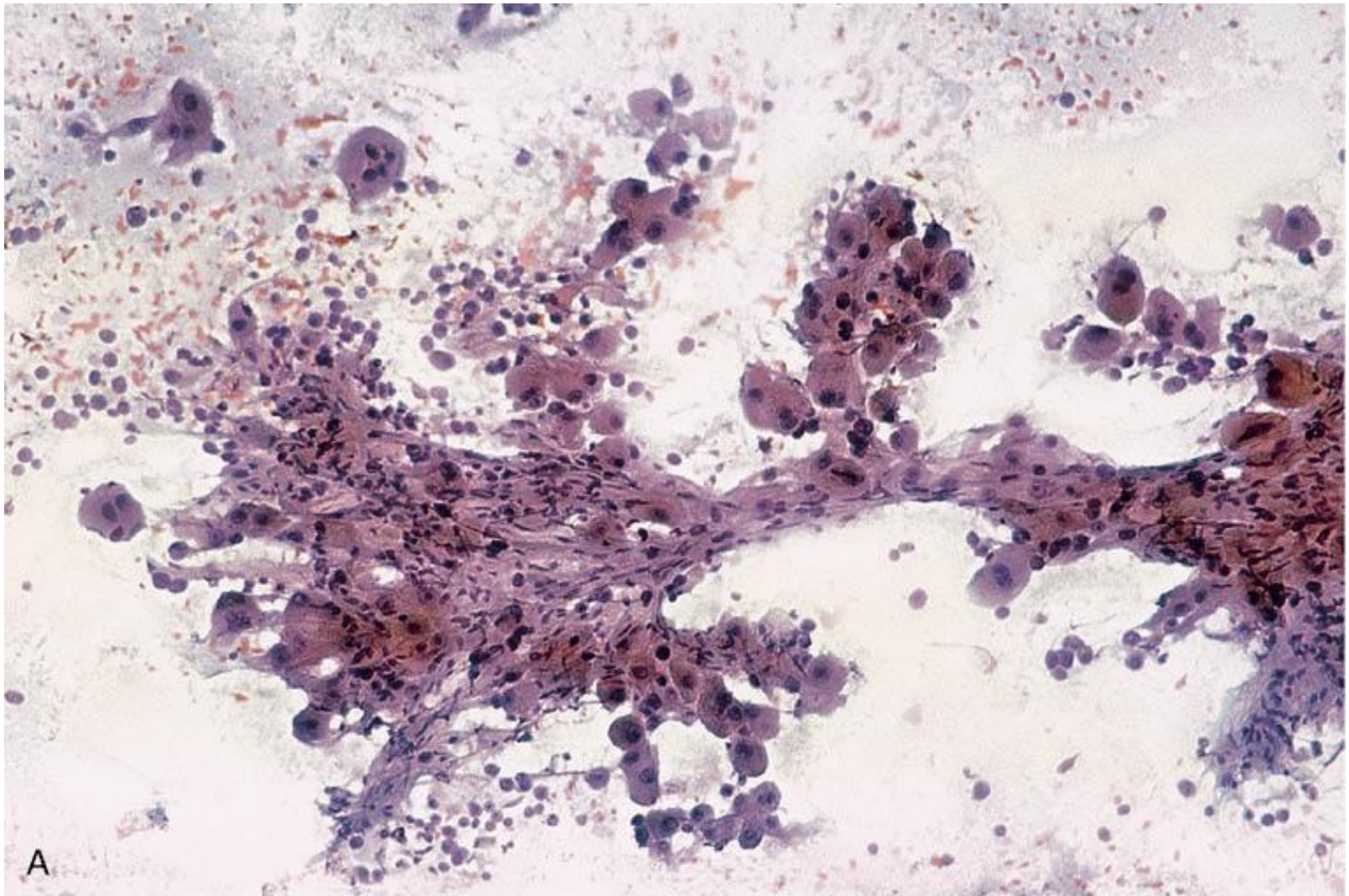


Figure 12.21A Fibrolamellar hepatocellular carcinoma (HCC). **A**, Large, atypical hepatocytes are accompanied by fibrous tissue. **B**, The malignant cells have abundant granular cytoplasm and intracytoplasmic hyaline globules (*arrows*; Papanicolaou stain).

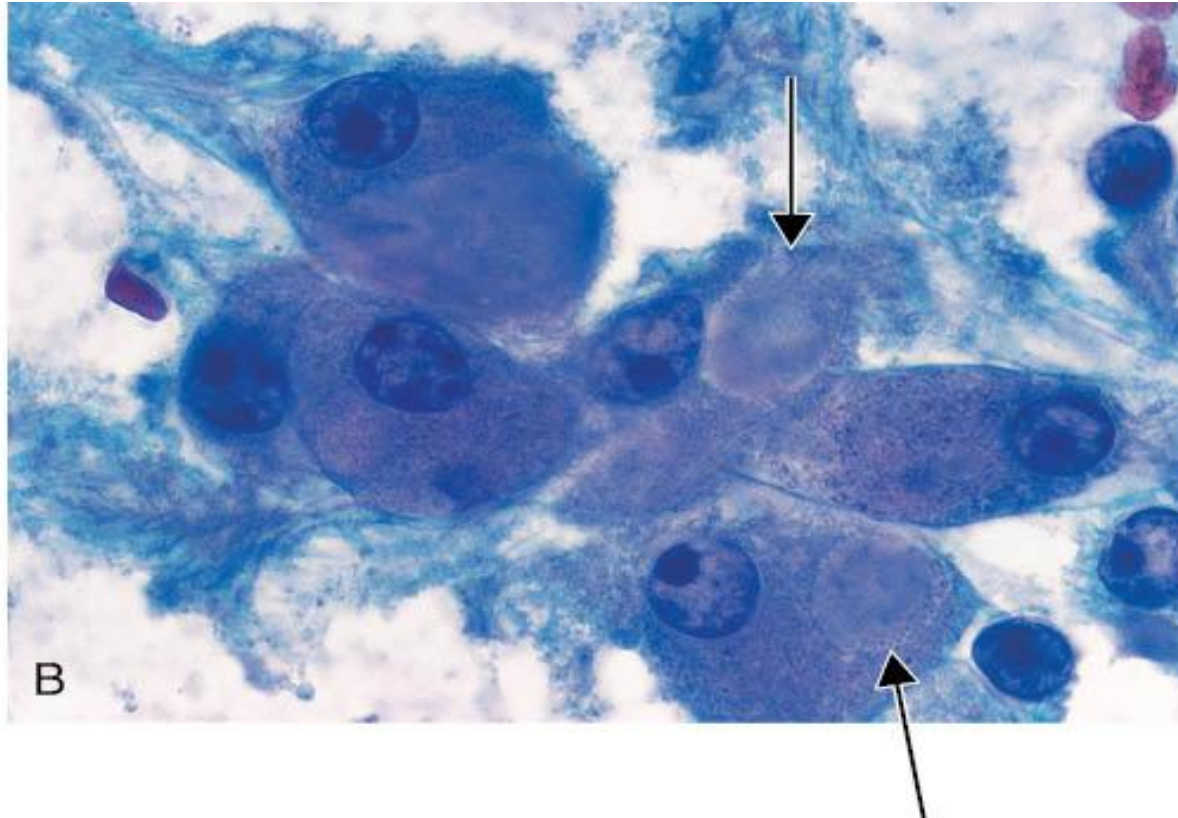


Figure 12.21B Fibrolamellar hepatocellular carcinoma (HCC). **A**, Large, atypical hepatocytes are accompanied by fibrous tissue. **B**, The malignant cells have abundant granular cytoplasm and intracytoplasmic hyaline globules (*arrows*; Papanicolaou stain).

Example of a poorly differentiated HCC

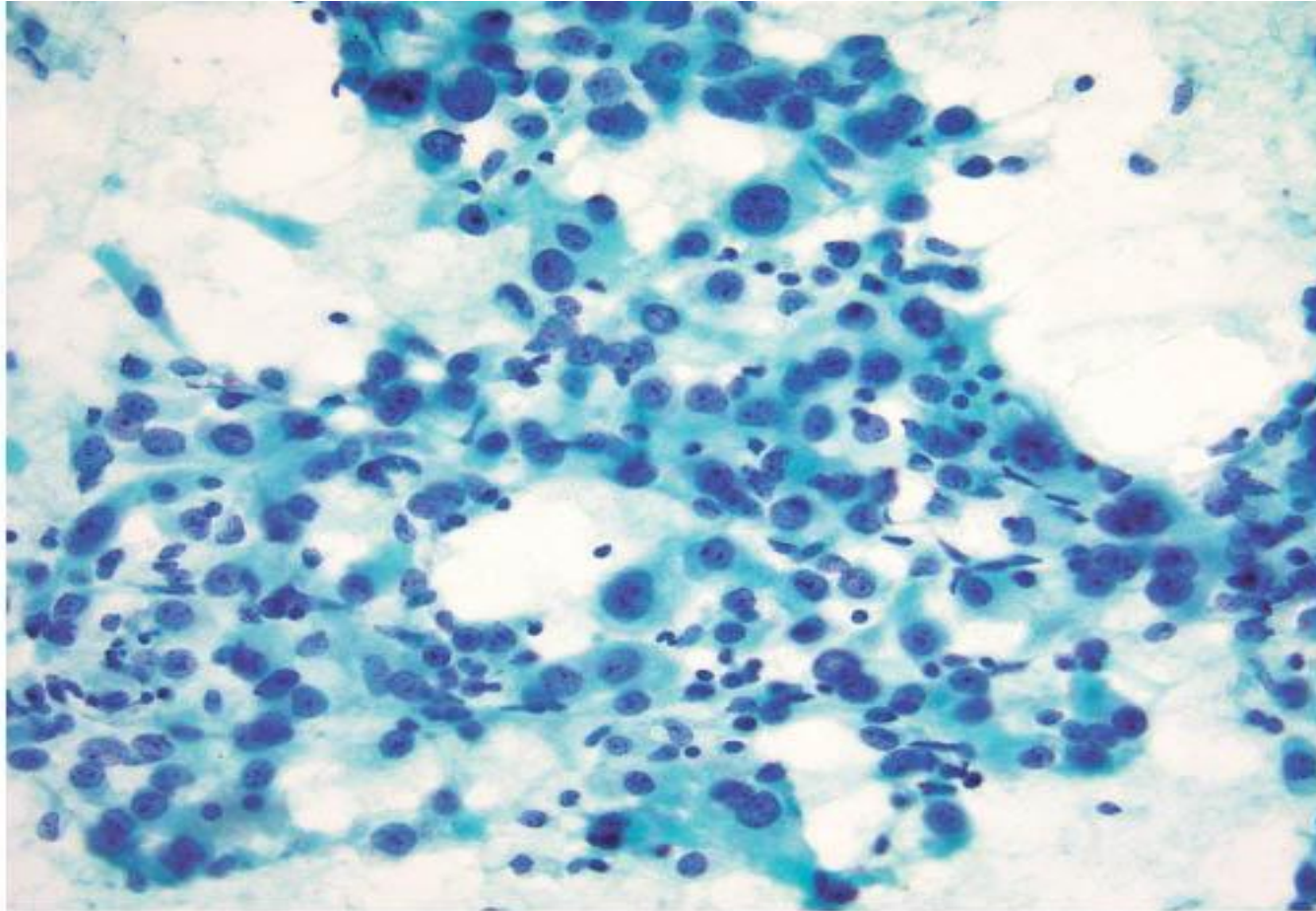


Figure 12.17 Hepatocellular carcinoma (HCC). There is a loosely cohesive cluster of atypical hepatocytes with intermingled endothelial cells. Nuclear pleomorphism is noted. Binucleated and multinucleated cells are seen. Nucleoli are multiple and often irregular (Papanicolaou stain).

Poorly differentiated HCC - DDX

| | Hepatocellular Carcinoma | Cholangiocarcinoma | Metastatic Adenocarcinoma |
|----------------|--------------------------|---------------------|--|
| Bile | +/- | - | - |
| Mucin | - | 75%–100% | 50%–75% |
| AE1 keratin | rare | + | + |
| Polyclonal CEA | canalicular | diffuse cytoplasmic | diffuse cytoplasmic |
| HBV | 50% | rare | - |
| HepPar1 | 80% | 50% | rare |
| CD31 | + (endothelial cells) | - | - |
| TTF-1 | granular, cytoplasmic | - | nuclear (lung) |
| Ber-EP4 | - | + | + |
| MOC-31 | - | + | + |
| CD10 | canalicular | - | - |
| CD34 | sinusoidal | - | +/- |
| monoclonal CEA | - | - | + |
| CK7 | - | + | variable (+) lung, ovaries, stomach, pancreas; (-) in colon |
| CK20 | - | +/- (≈40%–50%) | variable (+) in stomach, pancreas and colon; (-) in lung and ovaries |

Table 12.1 Cibas, E. Ducatman. Cytology Diagnostic Principles and Clinical Correlates. 3rd Ed