

History: A 54-year-old man with a past medical history of hypertension, diabetes, and ulcerative colitis presents with several weeks of fatigue and a dull ache in his upper abdomen. His weight has decreased 10 pounds from his last appointment 6 months ago and he has noticed some yellowing of his eyes. He denies any specific provoking or palliative factors for his abdominal pain. He does not notice it worsen with meals, but he does note that his appetite has been diminished. He has no fevers, chills, jaundice, nausea, vomiting, or bowel or bladder changes. His ulcerative colitis has been well controlled for many years with adalimumab. His diabetes is well controlled with diet/exercise and metformin, last HbA1c was 6.5%.

Allergies: No known drug allergies

Past medical history:

- Hypertension
- Type II diabetes
- Ulcerative colitis
- Tobacco use

Meds:

- Losartan
- Metformin
- Adalimumab

PSH:

- Appendectomy
- Tonsillectomy and adenoidectomy

Past social history:

- Tobacco: 0.5 packs per day x 30 years.
- Alcohol: Social.
- No illicit drug use.
- Immigrated from Japan 30 years ago. Employed as a software engineer. Married with two children.

Physical exam:

General: Thin-appearing man.

HEENT: Scleral icterus, jaundice noted under the tongue.

Skin: No jaundice, no spider angiomas, telangiectasias.

Cardiovascular: Regular rate and rhythm, no extra sounds or murmurs.

Pulmonary: Clear to auscultation bilaterally.

Abdominal: Non-distended. Mild tenderness on palpation of the right upper quadrant. No rebound/guarding. No Murphy's sign. Hepatomegaly.

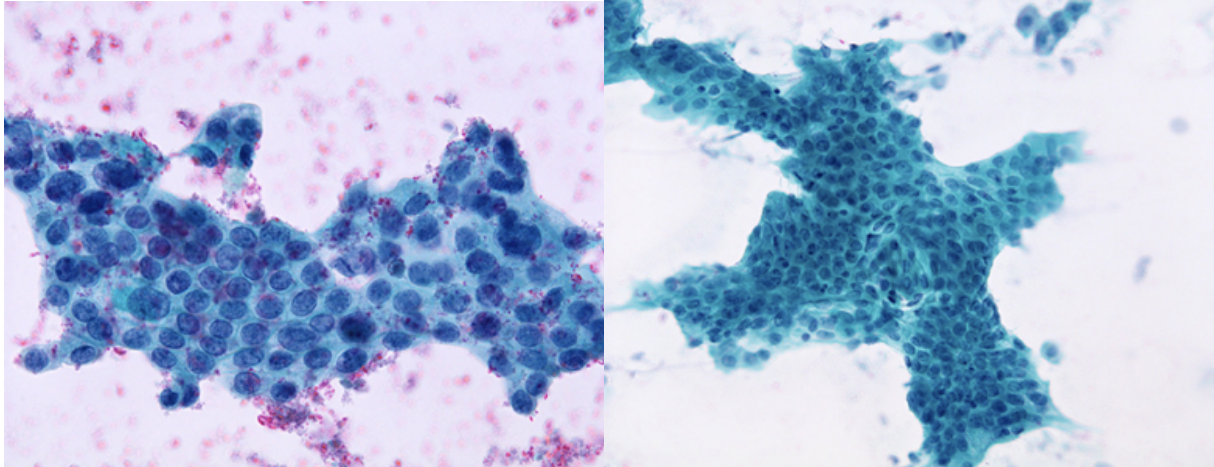
Hematology/Oncology: No lymphadenopathy.

Neurology: CN II-XII grossly intact. No focal neurological deficits.

1. **What's your clinical differential diagnosis? What workup would you want for this patient? Labs? Imaging? Interventions?**

CYTOLOGY:

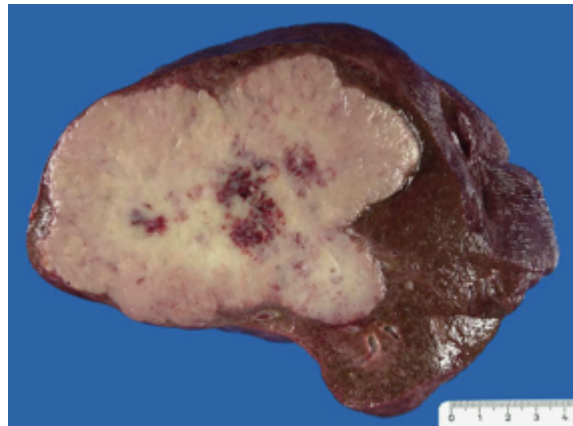
The pathologist is called into the OR where they are requested to interpret the biliary brushings. They make and stain the slides in the OR, and this is what is seen in the microscope.



2. Are these cells benign or malignant? What type of cells are they (hepatocytes, ductal epithelial cells, other)?

Because the malignancy is peri-hilar, the surgeon thinks that it is resectable with surgery. You receive the specimen in the gross room.

GROSS PATHOLOGY



MICROSCOPIC PATHOLOGY

Link to our slide or slide from [Virtual Pathology Leeds](#).

3. What is your histologic differential diagnosis?
4. What stains would you get to help with your differential diagnosis?

SOURCES

Information sources:

- <https://path.upmc.edu/cases/case488/dx.html>
- <http://apps.pathology.jhu.edu/sp/?s=cholangiocarcinoma>
- <https://www.pathologyoutlines.com/topic/livertumorcholangiocarcinoma.html>
- <https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-cholangiocarcinoma>

Image sources:

- Pap image:
http://pathology.jhu.edu/cytopath_tut/considerations/ShowImage.cfm?ModuleID=7&CaseInfoID=16&ImageID=441&ConsiderID=67
- Gross image: <https://alf3.urz.unibas.ch/pathopic/e/getpic-fra.cfm?id=009160>
- Histology image:
http://www.virtualpathology.leeds.ac.uk/slides/library/view.php?path=%2FResearch_4%2FSlide_Library%2FR_Bishop_Collection%2FCard_index_Set%2FLiver%2F33722.svs

Supplemental Material 1: Example of an unknown assignment for students interested in gastrointestinal pathology, internal medicine, or surgery.