GASTROINTESTINAL LABORATORY

Case 1

Identify and describe the gross findings of the following anatomic regions:
- Esophagus
- Gastroesophageal junction
- Gastric cardia
- Gastric fundus
- Gastric body
- Gastric Antrum
- Pylorus

Name the organ. Name the layers A-D.
Case 1
What do F, G and H designate?
High power of layer "A" from previous slide

Case 1
Correlate the histology with the gross image.
Describe the mucosa

Case 1
Describe the findings seen in this endoscopic photo of the gastroesophageal junction and correlate to the normal histology.
Case 2

Name the organ. Describe the low power findings. Identify the mucosa, muscularis mucosa, submucosa, muscularis externa and serosa.

Case 2

Gastric Fundus

• Identify the surface mucous cells, gastric pits and fundic glands.

• What is the function of the surface mucous cells?

Case 2

Identify and describe the function of the cells represented by A and B.
Case 2
Gastric Pylorus
Identify the gastric pits and the pyloric glands. What cell type is predominant in the Pyloric glands? What is its function?

Case 3
HISTORY:
A 65 year-old man has a burning pain which begins in his epigastrium and travels up into his chest. The pain seems worse post-prandially or in a supine position. He says he frequently has a “sour” taste in his mouth and feels better after taking an antacid. He has had these symptoms for several years.

PHYSICAL EXAMINATION:
Vital signs: BP 130/90, HR 90/min, RR 18/min, T 98°F
The patient is obese. He uses his hand to indicate the area of burning pain in his upper abdomen extending into his chest. The abdomen is soft and non-tender with no palpable masses or organomegaly. Rectal exam is done: stool is brown and occult blood negative.

Develop a differential diagnosis for this patient’s problem. Which diagnosis do you favor?
Are there recommendations for drug therapy and/or non-drug therapy you would relay to the patient?
What are potential complications of this disease process?
Case 3

The patient’s symptoms initially improve with your recommendations. After several years his symptoms recur. His physician recommends upper endoscopy (esophagoduodenoscopy – EGD).

Case 3

Describe the endoscopic findings and contrast to the normal esophagus.

Case 3

Describe the gross exam findings from an autopsy performed on a patient with the same disease. What do “A” and “B” indicate?
Case 3
Describe the histologic findings. What cell type is depicted by the arrows?

Case 3
Correlate the gross findings with the histologic changes.

What is your diagnosis?

Case 3
What complication(s) can occur as a result of this disease process?
Case 4

CHIEF CONCERN:  “Food sticks in my throat when I swallow.”

HISTORY:
A 72 year-old man has developed dysphagia which gradually progressed from solids to soft foods then to liquids. He has fatigue and a 20 lb weight loss over 6 months. He has a 30 pack year smoking history and a history of heavy alcohol use but stopped both 10 years ago.

PHYSICAL EXAMINATION:
BP 140/80, HR 85/min, RR 19/min, T 98°F
Patient is alert, extremely thin. He has enlarged, firm, fixed cervical lymph nodes. The remainder of the physical examination is unremarkable.

Case 4

Develop a problem list

Formulate a differential diagnosis for this set of problems

Case 4

EGD is recommended but the patient is hesitant to undergo it. A barium swallow is performed.
Case 4

What is a barium swallow?

What are the findings of the patient’s study?

Case 4

Specimen A. Describe the gross findings. Correlate the findings with the barium swallow.

Case 4

Specimen B. Describe the gross findings. Correlate the findings with the barium swallow.
Describe the histologic findings.

Case 4

Low power

Case 4

Low power

What is your diagnosis?

Correlate the clinical findings with the pathology.
What are risk factors for the development of this disease process?

Compare the epidemiology of squamous cell carcinoma vs adenocarcinoma of the esophagus.

Compare where in the esophagus squamous cell carcinomas vs adenocarcinomas arise.

Case 5

CHIEF COMPLAINT: "I’ve been having pains in my stomach."

HISTORY: A 47 year-old male truck driver presents with epigastric pain. The pain seems worse when he eats. He strained his back lifting a load into his truck several months ago and has been taking ibuprofen 400-600mg two to three times daily since. He notes that he is extremely tired lately and has noticed intermittent passage of black tarry stool.

His social history is significant for a 20-pack year smoking habit.

PHYSICAL EXAMINATION:
BP 145/80, HR 82/min, lying down
BP 149/88, HR 89/min, standing up
RR 18/min, T 98°F
Alert and oriented man

The abdomen is soft with mild epigastric tenderness. No palpable masses or organomegaly are noted. Rectal exam shows black stool which is hemoccult positive.
Case 5
Develop a problem list

Develop a differential diagnosis. Is there a diagnosis that you favor?

Case 5
Describe the gross findings.

Case 5
Describe the low power histologic findings.
Case 5

What is your diagnosis?

What are associated risk factors in general and in this patient?
Case 5
Describe the histologic findings from this high power photo.

Case 5
What are potential complications related to the disease process depicted in this case?

Case 5
Describe the gross findings.
Correlate the previous gross image with the upright chest X-ray.