Pathology 1

Patho lec.1

1. A newborn develops choking and regurgitation immediately with the first feeding. Imaging suggests that swallowed material cannot reach the stomach, and recurrent aspiration is feared. Which underlying lesion best explains both the feeding intolerance and the high risk of pneumonia?

A. Fibrous thickening of the submucosa after chronic reflux

B. A non-canalized segment of esophagus ,with communication to the trachea

C. Failure of inhibitory neurons causing incomplete LES relaxation

D. Superficial longitudinal mucosal tear at the gastroesophageal junction

E. Dilated submucosal veins in the distal esophagus

2. A 54-year-old man with chronic liver disease is found unconscious after vomiting a large amount of blood. He had no prior dysphagia or odynophagia and was previously asymptomatic. Endoscopy before this event would most likely have shown:

A. Longitudinal mucosal lacerations crossing the gastroesophageal junction

B. Adherent gray-white plaques composed of fungal elements and inflammatory debris

C. Tortuous submucosal venous dilatations in the distal esophagus and proximal stomach

D. A tight lower esophageal narrowing due to failure of relaxation with proximal dilatation

E. Diffuse punched-out ulcers lined by multinucleated epithelial cells

3.A patient complains that swallowing has become progressively harder over several months. Initially solids were affected, but now even liquids are difficult to pass. He has a long history of reflux symptoms. Which histologic change most likely underlies this presentation?

A. Degeneration of inhibitory neurons in the distal esophagus

B. Submucosal fibrosis with atrophy of the muscularis propria

(**due to recurrent GERD**)

C. Endothelial and stromal enlargement with viral inclusions

D. Dilated venous channels at a porto-systemic anastomosis

E. Superficial mucosal tearing after acute distension

4.An immunosuppressed patient has painful swallowing. Endoscopy reveals multiple small, sharply demarcated punched-out ulcers with surrounding erythema. Biopsy is most likely to show:

A. Fungal hyphae highlighted by PAS within adherent pseudomembranous debris

B. Multinucleated epithelial cells with intranuclear inclusions at the ulcer edge

C. Enlarged endothelial cells with nuclear and cytoplasmic inclusions in the ulcer base

D. Submucosal venous dilation filled with blood

E. Fibrosis replacing the submucosa with muscular atrophy

5.A patient has dysphagia, regurgitation of food, and a barium swallow showing a markedly dilated esophagus above a tight distal narrowing that allows only minimal passage into the stomach. Which mechanism best explains the lesion?

A. Healing after chemical injury with fibrosis and scar formation

B. Loss of inhibitory neural input

C. Acute mucosal tearing during forceful emesis

D. Portal blood diversion into systemic veins

E. Viral infection causing edema and shallow ulceration

6.A cirrhotic patient is being screened endoscopically. The lesion of concern is located in the distal esophagus because this site is:

A. Most prone to retaining tablets swallowed without water

B. A frequent site of HSV infection in healthy adults

C. The major location where squamous epithelium changes to gastric-type mucosa

D. A site of porto-systemic anastomosis where collateral channels enlarge under portal hypertension

E. The most common site of congenital non-canalization

7.A patient presents with fresh hematemesis after prolonged severe vomiting. Endoscopy identifies a lesion that is linear, longitudinal, superficial, and crosses the gastroesophageal junction. Which statement is most accurate?

A. It usually results from portal hypertension and often rebleeds in 60%

B. It is a transmural rupture that routinely requires surgical correction

C. It generally involves mucosa only and tends to heal with supportive treatment

D. It reflects fungal infection in debilitated hosts

E. It is caused by failure of relaxation of the lower esophageal sphincter

8.A patient from an endemic area develops achalasia-like findings. The physician suspects a secondary rather than primary process. Which feature would best support that interpretation?

A. Idiopathic degeneration limited to distal inhibitory neurons

B. Myenteric plexus destruction caused by Trypanosoma cruzi

C. Prior long-standing GERD with fibrosis

D. Recurrent forceful vomiting with mucosal tears

E. Distal esophageal variceal rupture

9.An immunosuppressed patient undergoes biopsy for esophageal ulceration. The pathologist reports markedly enlarged endothelial and stromal cells containing nuclear and cytoplasmic inclusions. Endoscopically, the corresponding ulcers were most likely:

A. Deep and punched-out

B. Covered by white pseudomembranes

C. Shallow rather than punched-out

D. Linear and crossing the GEJ

E. Associated with proximal pouch formation

10.A neonate cannot tolerate feeding soon after birth. The clinician explains that the lesion represents a mechanical rather than functional obstruction. Which feature best justifies that classification?

A. The main defect is abnormal innervation of the esophageal wall

B. The lower esophageal sphincter fails to relax despite preserved anatomy

C. A segment of the esophagus is replaced by a thin, non-canalized cord

D. There is spasm of otherwise structurally intact muscularis propria

E. The lesion is due to degeneration of inhibitory neurons

11.Which esophageal disorder is most likely to present with painful swallowing as the main symptom rather than progressive food hold-up or regurgitation?

A. Achalasia

B. Esophageal stenosis

C. Chemical esophagitis

D. Esophageal atresia

E. Esophageal varices before rupture

Or

Which patient is most likely to have odynophagia as the dominant complaint rather than progressive dysphagia or food regurgitation?

A. Patient with primary achalasia

B. Patient with reflux-related fibrotic stenosis

C. Patient with pill-induced mucosal injury

D. Patient with congenital esophageal atresia

E. Patient with unruptured varices

12.Which pairing is correctly matched?

A. HSV — shallow ulcers with infection of stromal and endothelial cells

B. CMV — punched-out ulcers with multinucleated epithelial giant cells

C. Candida — adherent gray-white pseudomembranes and possible oral thrush

D. Mallory-Weiss — tortuous submucosal distal esophageal veins

E. Achalasia — fibrous thickening of submucosa due to chronic reflux

Pathology 2

1. A 48-year-old man has years of heartburn. Endoscopy is nearly normal except for mild erythema in the distal esophagus. Biopsy would most likely show?

A. Prominent neutrophilic abscesses with stromal inclusions

B. Eosinophilic infiltration of squamous epithelium

C. Goblet cells replacing the squamous lining

D. Gland-forming malignant cells with mucin production

E. Full-thickness necrosis with perforation

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2. A 43-year-old woman has long-standing reflux symptoms. Which factor most directly promotes her disease by impairing a protective mechanism rather than increasing exposure pressure?

A. Pregnancy

B. Delayed gastric emptying

C. Hiatal hernia

D. Obesity

E. Increased gastric volume

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3. A patient with GERD develops microscopic changes in the distal esophagus. Which combination is most characteristic?

A. Basal zone hyperplasia and elongation of lamina propria papillae

B. Keratin pearls and intercellular bridges

C. Numerous eosinophils in upper and mid esophagus far from GEJ only

D. Nuclear and cytoplasmic inclusions in stromal cells

E. Pseudomembranes of fungal hyphae and inflammatory cells

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4. A 55-year-old patient presents with retrosternal burning after meals, sour-tasting regurgitation, and occasional chest pain mistaken for ischemic heart disease. Which treatment is most appropriate?

A. Topical corticosteroids

(used for Barrett's disease)

B. Proton pump inhibitors

C. Broad-spectrum antibiotics

D. Endoscopic mucosal resection

E. Antifungal therapy

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5. A 51-year-old man with chronic reflux now has dark stools and worsening dysphagia. Which complication of GERD best explains the dysphagia if the cause is chronic healing and scarring rather than malignant transformation?

A. Barrett esophagus

B. Esophageal ulceration

C. Stricture

D. Intramucosal carcinoma

E. Eosinophilic esophagitis

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6. A 9-year-old child has feeding intolerance and GERD-like symptoms. Endoscopy shows concentric rings in the upper and mid esophagus. Which is the most likely diagnosis?

A. Reflux esophagitis

B. Barrett esophagus

C. Eosinophilic esophagitis

D. Squamous cell carcinoma

E. Adenocarcinoma

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7. An adult has recurrent food impaction. He also has asthma and allergic rhinitis. His symptoms did not improve with proton pump inhibitors. Which next treatment is most appropriate?

A. Radiation therapy

B. Dietary restriction

C. Antiviral therapy

D. Surgical esophagectomy

E. Iron supplementation only

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8. Which finding most strongly favors eosinophilic esophagitis over reflux esophagitis?

A. Dysphagia

B. Eosinophils in the epithelium

C. Association with children

D. in the upper/mid esophagus

E. Heartburn

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9. A 52-year-old man with symptomatic GERD undergoes endoscopy. Red tongues extend upward from the GEJ. Biopsy is required to confirm the diagnosis because the key defining histologic feature is:

A. Basal zone hyperplasia

B. Neutrophilic infiltration

C. Goblet cells indicating intestinal metaplasia

D. Keratinization of squamous epithelium

E. Endothelial cytomegaly

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10. A pathologist reports intestinal metaplasia in a distal esophageal biopsy from a patient with chronic reflux. Which statement is most accurate?

A. It is synonymous with invasive adenocarcinoma

B. It is a direct precursor of squamous cell carcinoma

C. It defines Barrett esophagus and predisposes to adenocarcinoma

D. It excludes the need for further surveillance

E. It usually occurs in the upper third of the esophagus

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11. A patient with Barrett esophagus is being followed. Which additional histologic finding would represent an early carcinoma rather than only metaplasia or dysplasia?

A. Elongation of papillae

B. Presence of goblet cells

C. Invasion into lamina propria

D. Squamous dysplasia in the middle third

E. Stromal nuclear inclusions

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12. A 58-year-old man with obesity, smoking history, long-standing GERD, and documented Barrett dysplasia develops progressive dysphagia and weight loss. Which malignancy is most likely?

A. Squamous cell carcinoma of the upper esophagus

B. Squamous cell carcinoma of the middle esophagus

C. Adenocarcinoma of the distal esophagus

D. Lymphoma of the GEJ

E. Small cell carcinoma of the proximal esophagus

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13. Which sequence best describes the pathogenesis of esophageal adenocarcinoma?

A. GERD → squamous dysplasia → SCC

B. Barrett esophagus → dysplasia → adenocarcinoma

C. Achalasia → Barrett esophagus → adenocarcinoma

D. CMV esophagitis → metaplasia → adenocarcinoma

E. Eosinophilic esophagitis → ulceration → adenocarcinoma

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14. A biopsy from an esophageal mass shows malignant glands with mucin production. The lesion most likely arose in which location?

A. Upper third

B. Middle third

C. Distal third

D. Cervical esophagus only

E. Equally in all thirds

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15. A patient presents with painful swallowing, vomiting, chest pain, and progressive weight loss. Endoscopy detects an early distal esophageal lesion that appears only as a **flat** patch. This subtle appearance is most consistent with early:

A. SCC

B. Adenocarcinoma

C. Varix

D. HSV esophagitis

E. Eosinophilic esophagitis

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16. A 60-year-old man from a low-resource rural area has progressive dysphagia and weight loss. He has a history of heavy alcohol use, tobacco exposure, and frequent very hot beverages. Which esophageal cancer is most likely?

A. Distal adenocarcinoma arising in Barrett esophagus

B. Middle-third squamous cell carcinoma

C. Distal-third SCC

D. Neuroendocrine tumor of the GEJ

E. Metastatic lung adenocarcinoma

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17. A man with long-standing achalasia develops esophageal cancer. Which type is more strongly associated with that background in the lecture?

A. Adenocarcinoma

B. Squamous cell carcinoma

C. Lymphoma

D. Melanoma

E. Leiomyosarcoma

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18. An esophageal tumor is centered in the middle third and has invaded locally. Which lymph nodes are most likely to contain metastases first according to the lecture?

A. Gastric and celiac

B. Cervical only

C. Mediastinal, paratracheal, and tracheobronchial

D. Axillary and supraclavicular

E. Mesenteric only

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19. A patient with esophageal SCC develops coughing spells and aspiration when swallowing. Which complication best explains this?

A. Barrett metaplasia

B. Tracheoesophageal fistula

C. Hiatal hernia

D. Intramucosal carcinoma

E. Basal zone hyperplasia

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20. Which feature best distinguishes SCC from adenocarcinoma of the esophagus ?

A. SCC is linked to chronic GERD and Barrett esophagus

B. Adenocarcinoma is most common worldwide in rural low-resource countries

C. SCC commonly involves the middle third

D. Adenocarcinoma commonly arises from squamous dysplasia and CIS

E. SCC forms glands and mucin

Pathology 3

1. A 45-year-old patient presents with severe epigastric pain and hematemesis. Endoscopy reveals multiple shallow, rounded lesions (<1 cm) with **dark brown** bases scattered throughout the gastric body. The surrounding mucosa appears unremarkable. Which of the following is the most likely pathophysiological mechanism?

A. Direct mucosal injury by ethanol

B. Reflex splanchnic vasoconstriction due to physiological stress

C. Autoimmune destruction of H+/K+ ATPase pumps

D. Inhibition of cyclooxygenase enzymes reducing PGE2 levels

E. Urease-mediated ammonia production causing local pH changes

2. In a patient with biopsy-confirmed autoimmune atrophic gastritis, which of the following laboratory findings would most likely be observed?

A. Hyperchlorhydria

B. Elevated serum pepsinogen I

C. Markedly increased serum gastrin levels

D. Presence of neutrophils in the antral mucosa

E. Decreased levels of G-cell activity

3. Which histological finding is considered the "gold standard" for diagnosing intestinal metaplasia in the setting of chronic gastritis?

A. Presence of neutrophils in the surface epithelium

B. Visualization of spiral G-negative bacilli on the mucus layer

C. Presence of lymphoid aggregates in the lamina propria

D. Identification of goblet cells

E. Thinning of the gastric wall and loss of rugal folds

4. A 68-year-old female with a history of Hashimoto's thyroiditis presents with fatigue and paresthesia. A CBC shows megaloblastic anemia. A gastric biopsy would most likely show atrophy in which region?

A. Antrum only

B. Body and fundus, sparing the antrum

C. Cardia and gastroesophageal junction

D. Pyloric canal and duodenum

E. Diffuse involvement of the entire stomach including the antrum

5. How does the pathogenesis of H. pylori infection contribute to the development of duodenal ulcers?

A. The bacteria migrate to the duodenum and cause direct mucosal damage

B. H. pylori increases bicarbonate secretion in the pylorus

C. It causes antral gastritis, stimulating G-cells to increase acid production which enters the duodenum

D. It induces systemic acidosis, lowering intracellular pH

E. It inhibits the splanchnic blood flow to the proximal duodenum

6. Which of the following best differentiates "Gastropathy" from "Acute Gastritis" microscopically?

A. The presence of surface erosions

B. The degree of mucosal edema

C. The absence of prominent neutrophils

D. The depth of the lesion reaching the submucosa

E. The presence of hematemesis clinically

7.A 35-year-old male was admitted to the ICU after a motor vehicle accident resulting in a severe traumatic brain injury and increased intracranial pressure. On his fourth day of hospitalization, he experiences a sudden drop in blood pressure and develops rigid, board-like abdominal tenderness. An X-ray shows free air under the diaphragm (pneumoperitoneum).

- This patient's condition is most likely caused by which specific type of lesion?

A. Curling ulcer

B. Cushing ulcer

C. Dieulafoy lesion

D. Chronic Peptic Ulcer

E. Marginal Zone Lymphoma

-What is the physiological driver behind this specific lesion?

A. Systemic hypovolemia leading to mucosal ischemia

B. Overuse of NSAIDs for pain management

C. Vagal overstimulation leading to gastric acid hypersecretion

D. Direct toxic effect of bile reflux

E. Uremia-induced ammonia toxicity

8. A patient is diagnosed with chronic H. pylori gastritis. If left untreated, the patient is at a significantly increased risk for which neoplastic complication due to the presence of lymphoid aggregates?

A. Gastric Adenocarcinoma

B. Carcinoid tumor

C. MALT lymphoma

D. Squamous cell carcinoma

E. Leiomyosarcoma

9.A pathologist is reviewing three gastric biopsies from three different patients.

• Biopsy A: Shows goblet cells and columnar cells replacing the normal foveolar epithelium.

• Biopsy B: Shows neutrophils within the glandular and surface epithelium (crypt abscesses).

• Biopsy C: Shows a significant reduction in the number of parietal cells and the presence of macrophages.

1. Match the biopsies to their most likely clinical context:

A. A: Active Gastritis; B: Intestinal Metaplasia; C: Chronic Atrophic Gastritis

B. A: Chronic Atrophic Gastritis; B: Active Gastritis; C: Intestinal Metaplasia

C. A: Intestinal Metaplasia; B: Active Gastritis; C: Chronic Atrophic Gastritis

D. A: Intestinal Metaplasia; B: Chronic Atrophic Gastritis; C: Active Gastritis

E. A: Active Gastritis; B: Chronic Atrophic Gastritis; C: Intestinal Metaplasia

10. Which clinical feature is most likely to be absent in chronic gastritis compared to acute gastritis?

A. Epigastric pain

B. Nausea

C. Vomiting

D. Hematemesis

E. Upper-abdominal discomfort

11. A 60-year-old patient with uremia is noted to have frequent gastric erosions. What is the likely mechanism for this increased susceptibility?

A. Urease production by H. pylori

B. Ammonia inhibition of bicarbonate transport

C. Excessive vagal stimulation

D. High altitude-induced hypoxia

E. Direct DNA synthesis inhibition

12. Which of the following is a potential complication of "Autoimmune Atrophic Gastritis" that is NOT typically associated with H. pylori gastritis?

A. Gastric Adenocarcinoma

B. Intestinal Metaplasia

C. Carcinoid tumors

D. Peptic Ulcer disease

E. Dysplasia

13. A patient with extensive third-degree burns develops upper GI bleeding. What is the most likely location of the ulcers?

A. Esophagus

B. Gastric Fundus

C. Proximal Duodenum

D. Distal Antrum

E. Descending Duodenum

14. Treatment for H. pylori infection typically involves "triple therapy." What does this consist of?

A. Three different antibiotics

B. One antibiotic and two PPIs

C. Two antibiotics and a PPI

D. A PPI, an antacid, and a lifestyle change

E. NSAIDs, B12 supplements, and a PPI

15.Worldwide, what is the most common cause of chronic gastritis?

A. Chronic use of NSAIDs (e.g., Aspirin or Ibuprofen)

B. Autoimmune destruction of parietal cells

C. Infection with Helicobacter pylori

D. Excessive alcohol consumption

E. Chronic bile reflux

Pathology 4

1. A 62-year-old male presents with weight loss and early satiety. Endoscopy reveals a "leather bottle" appearance of the stomach with no distinct mass. Biopsy shows discohesive cells with peripheral nuclei. Which of the following is the most likely molecular driver?

A. Somatic mutation in the APC gene

B. Germline mutation in the CDH1 gene

C. Overexpression of the HER2/neu receptor

D. Microsatellite instability due to EBV infection

E. Translocation of the t(11;18) chromosome

2. Regarding Peptic Ulcer Disease (PUD), which of the following cofactors is NOT specifically associated with the aggravation of the disease?

A. Chronic obstructive pulmonary disease (COPD)

B. Chronic renal failure

C. Cigarette smoking

D. High-dose corticosteroid use

E. Controlled Hypertension

3. A patient with a long-standing history of epigastric pain is found to have a solitary, sharply demarcated 1.5 cm ulcer in the gastric antrum with a smooth base. What microscopic feature would most reliably distinguish this from an acute stress ulcer?

A. Absence of rugal folds

B. Presence of necrotic debris

C. Extensive granulation tissue and scarring

(**gives it white base instead of brown**)

D. Depth of penetration into the muscularis mucosae

E. Multiple lesions in the proximal stomach

4. A 50-year-old female undergoes a biopsy for a subepithelial gastric mass. The pathology report describes uniform cells with "salt-and-pepper" chromatin. Which clinical finding would most strongly suggest the presence of liver metastasis?

A. Severe epigastric pain relieved by antacids

B. Microcytic anemia and fatigue

C. Cutaneous flushing and diarrhea

D. Palpable Virchow's node

E. Hematemesis and melena

5. A gastric biopsy reveals multiple small polyps in the antrum. Microscopy shows elongated, branched, and dilated crypts with an inflamed lamina propria. What is the most appropriate clinical management for these specific polyps?

A. Immediate surgical resection due to high dysplasia risk

B. Eradication of H. pylori and surveillance

C. Monitoring for the development of Gardner Syndrome

D. High-dose Proton Pump Inhibitors (PPI) only

E. Referral for total gastrectomy

6. Which of the following is true regarding the epidemiology of the Intestinal type of gastric adenocarcinoma?

A. It occurs at a 1:1 male-to-female ratio

B. It is not associated with H. pylori-induced metaplasia

C. It is more common in younger patients than the diffuse type

D. Its incidence has decreased in the USA due to falling H. pylori rates

E. It typically presents without a precursor lesion

7. A 40-year-old patient with chronic H. pylori infection develops a low-grade B-cell lymphoma (MALToma). Which statement regarding this condition is correct?

A. It is primarily treated with CHOP chemotherapy

B. It is most commonly found in the distal ileum

C. It can often be cured by antibiotic therapy

(**treat underlying cause**)

D. It arises from T-cells in the lamina propria

E. It is always associated with the CDH1 mutation

8. A 68-year-old patient with a history of chronic knee pain presents with a solitary, 2 cm, sharply demarcated ulcer in the gastric antrum. The margins are level with the surrounding mucosa. Which of the following is the most likely pathogenesis?

A. Direct mucosal damage and decreased prostaglandin synthesis

(**uses NSAIDS for his chronic pain**)

B. Hypergastrinemia due to a pancreatic neuroendocrine tumor

C. Genetic mutation leading to loss of E-cadherin expression

D. Bacterial urease production leading to mucosal ammonium toxicity

E. Autoimmune-mediated destruction of the oxyntic mucosa

9. A 2.5 cm sessile gastric polyp is found to have **nuclear stratification** and **hyperchromasia**. What is the clinical significance of these findings?

A. These are features of a benign hyperplastic polyp

B. There is a 30% risk of concurrent adenocarcinoma

C. The lesion is likely a neuroendocrine tumor

D. The patient likely has Type B chronic gastritis

E. The lesion is an inflammatory polyp with no malignant potential

10. In the context of the "Lauren Classification," which feature is characteristic of the Diffuse type of gastric cancer?

A. Formation of bulky, gland-forming masses

B. Development from a precursor adenoma

C. Strong geographic variation in incidence

D. Infiltrative growth with a desmoplastic reaction

E. Association with APC gene mutations

11. A patient presents with multiple peptic ulcers in the distal duodenum and jejunum. Which of the following is the most likely diagnosis?

A. H. pylori-associated duodenitis

B. NSAID-induced enteropathy

C. Zollinger-Ellison Syndrome

(**EVEN includes jejunum**)

D. Autoimmune atrophic gastritis

E. Gastric Adenoma

12. Which statement best describes the "Peptic Ulcer" definition?

A. It only refers to ulcers located within the gastric body

B. It is defined as any ulcer that involves the full thickness of the stomach wall

C. It includes any GIT area exposed to acid and pepsin

D. It is exclusively caused by H. pylori infection

E. It refers to superficial erosions that do not penetrate the muscularis mucosae

13. A 75-year-old male with chronic renal failure presents with hematemesis. Endoscopy shows multiple small, shallow ulcers in the stomach. These are most likely:

A. Chronic Peptic Ulcers

/**B. Stress-related acute ulcers**

(**As chronic illness**)

C. Gastric Adenocarcinomas

D. Carcinoid tumors

E. Hyperplastic polyps

14. Which of the following is the most powerful predictor of the long-term prognosis for a patient diagnosed with any form of gastric malignancy?

A. The specific histological subtype (e.g., Intestinal vs. Diffuse)

B. The presence of H. pylori infection at the time of diagnosis

C. The depth of invasion and status of lymph node metastasis

D. The degree of "dirty necrosis" seen on the biopsy

E. The age of the patient at the time of presentation

15. A biopsy shows "signet ring" cells. Which immunohistochemical (IHC) result would you most expect?

A. Strong membranous E-cadherin staining

B. Loss of E-cadherin staining

C. Positive staining for Gastrin

D. Negative staining for Cytokeratin

E. Overexpression of APC protein

16. Which of the following is a recognized precursor to the Intestinal type of gastric adenocarcinoma?

A. Menetrier Disease

B. Acute hemorrhagic gastritis

C. Intestinal metaplasia in the background of chronic gastritis

D. Fundic gland polyps

E. Meckel Diverticulum

17. Why is the duodenum the most common site for peptic ulcers despite the stomach producing the acid?

A. The duodenum has no bicarbonate secretion

B. The stomach has more robust mucosal defense mechanisms

C. H. pylori only lives in the duodenum

D. The duodenum is naturally more acidic than the stomach

E. Gastrin only acts on the duodenal mucosa

18. A gastric tumor is found to be positive for "dirty necrosis" on microscopy. This is a characteristic feature of:

A. Low-grade MALT lymphoma

B. Intestinal type adenocarcinoma

C. Diffuse type adenocarcinoma

D. Neuroendocrine tumor Grade 1

E. Gastric hyperplastic polyp

19.-During an autopsy, a pathologist observes a stomach with a thickened, rigid wall and loss of rugal folds throughout the body and antrum. Microscopically, the cells are discohesive and lack gland formation. What is the most likely finding in this patient’s family history?

A. Multiple members with colonic polyposis (FAP)

B. Family members with young-onset diffuse gastric cancer

C. A history of high-salt and smoked food consumption

D. Family history of Type 1 Diabetes and Pernicious Anemia

E. There is usually no family history as this type is strictly sporadic

20. Which factor is most responsible for the "leather bottle" (Linitis Plastica) gross appearance in diffuse gastric cancer?

A. Massive accumulation of intra-luminal mucin

B. Hyperplasia of the G-cells in the antrum

C. A dense fibrotic (desmoplastic) reaction in the stomach wall

D. Enlargement of the rugal folds due to inflammation

E. Dilation of the stomach due to outlet obstruction

Pathology 5

A 3-year-old male is brought to the emergency department with a 6-hour history of intermittent, severe abdominal pain, "currant jelly" stools, and a sausage-shaped mass palpable in the right upper quadrant. He has no significant past medical history. Imaging confirms intussusception . Which of the following is the most likely underlying cause of this patient's condition?

A. Idiopathic Peyer patch hyperplasia

B. Rotavirus vaccination

C. Meckel's diverticulum

D. Intraluminal tumor or mass

While intussusception is most common in children under 2 and is usually idiopathic or caused by viral-induced Peyer patch hyperplasia, in children older than 2 years, it is considered caused by a tumor or intraluminal mass until proven otherwise

E. Cystic fibrosis-related mucus plugging

Or

A 9-month-old infant is brought to the emergency department with a 6-hour history of sudden, paroxysmal abdominal pain. On physical examination, a sausage-shaped mass is palpable in the right upper quadrant, and a digital rectal exam reveals stool mixed with blood and mucus, resembling "currant jelly."

Q. What is the most likely diagnosis for this patient?

A. Meckel's Diverticulum

B. Malrotation with Midgut Volvulus

C. Intussusception

D. Hypertrophic Pyloric Stenosis

E. Hirschsprung Disease

A male neonate fails to pass meconium within the first 48 hours of life. Physical examination reveals a distended abdomen and a contracted rectum on digital exam. A barium enema shows a narrow distal segment and a massively dilated proximal colon. To confirm the diagnosis, a full-thickness biopsy is performed. Where should the biopsy be taken from, and what is the expected finding?

A. The dilated proximal segment; absence of Meissner and Auerbach plexuses

B. The dilated proximal segment; hypertrophied ganglion cells

C. The contracted distal segment; absence of ganglion cells

D. The contracted distal segment; presence of prominent nucleoli in neuronal cells

E. The ileocecal valve; heterotopic gastric mucosa

A 45-year-old female presents with chronic fatigue and microcytic anemia. She denies any diarrhea, weight loss, or abdominal pain. Her physical exam is notable only for pallor. A biopsy of the second portion of the duodenum is performed, showing intraepithelial lymphocytosis and villous atrophy. Which of the following serological tests is the most specific for confirming this patient's underlying condition?

A. Anti-tissue transglutaminase (tTG) IgA

B. Anti-deamidated gliadin antibodies (IgA & IgG)

C. Anti-endomysial antibody

D. Anti-gliadin IgA found in serum

E. HLA-DQ2/HLA-DQ8 genetic testing

A 4-month-old infant presents with failure to thrive, steatorrhea, and abdominal distention. Laboratory studies show significant deficiencies in vitamins A, D, E, and K. A peripheral blood smear shows "spur cells" (acanthocytes). A biopsy of the small intestine shows enterocytes with clear, "bubbly" cytoplasm. What is the primary defect in this condition?

A. Failure of intraluminal digestion due to pancreatic enzyme deficiency

B. Failure of terminal digestion at the apical brush border

C. Failure of enterocytes to secrete triglyceride-rich chylomicrons

D. Failure of lymphatic transport due to obstruction

E. Immune-mediated destruction of villi by CD8+ T cells

A 20-year-old male presents with sudden onset right lower quadrant pain and fever, clinically mimicking acute appendicitis. During emergency surgery, a normal appendix is found. The surgeon then examines the ileum and finds an inflamed, 2-inch outpouching located 2 feet from the ileocecal valve. This structure contains heterotopic gastric mucosa. What is the embryological origin of this lesion?

A. Failure of neural crest cell migration

B. Incomplete obliteration of the omphalomesenteric duct

C. Weakness in the abdominal wall

D. Downregulation of the lactase gene

E. Mutation in the CFTR gene

A 30-year-old patient is being evaluated for chronic diarrhea and weight loss. A biopsy of the small intestine is performed. Which of the following histological findings would most specifically point toward Environmental Enteropathy (Tropical Sprue) rather than Celiac Disease?

A. Increased intraepithelial CD8+ lymphocytes

B. Total villous atrophy in the duodenum

C. Significant involvement of the distal jejunum and ileum

D. Crypt hyperplasia

E. Improvement of symptoms upon starting a gluten-free diet

A patient presents with signs of malabsorption including bloating and flatulence. A biopsy of the small intestine is performed and shows completely <u>normal</u> villi and no increase in intraepithelial lymphocytes. However, the patient has a positive hydrogen breath test. Which of the following is the most likely diagnosis?

A. Celiac Disease

B. Whipple Disease

C. Crohn's Disease

D. Disaccharidase (Lactase) deficiency

the defect is at the molecular level (the apical brush border membrane enzymes)

E. Abetalipoproteinemia

Slide A looks completely normal under the microscope, despite the patient having explosive, frothy diarrhea. Slide B shows enterocytes that are crowded with clear, bubbly vacuoles. Which of the following correctly identifies these conditions?

A. Slide A: Abetalipoproteinemia; Slide B: Celiac Disease

B. Slide A: Celiac Disease; Slide B: Lactase Deficiency

C. Slide A: Lactase Deficiency; Slide B: Abetalipoproteinemia

D. Slide A: Tropical Sprue; Slide B: Whipple Disease

E. Slide A: Whipple Disease; Slide B: Lactase Deficiency

Pathology 6

A 28-year-old female presents with her first episode of bloody, mucoid diarrhea and lower abdominal cramps. She mentions that she recently decided to improve her health and quit smoking three weeks ago. Evaluation reveals continuous mucosal inflammation extending from the rectum to the mid-descending colon. What is a characteristic feature of this specific disease?

A. Transmural inflammation with skip lesions

B. High risk of developing "String Sign" on imaging

C. Development of "Pseudopolyps" due to mucosal regeneration

D. Presence of non-caseating granulomas

E. Stricture formation is common in the early stages

A 35-year-old male undergoes surgery for a bowel obstruction. The surgeon notes that the terminal ileum is thickened and "rubbery" due to transmural edema and fibrosis. The mesenteric fat is seen wrapping around the serosal surface of the bowel (creeping fat). Microscopic examination of the resected specimen is most likely to show:

A. Inflammation limited to the mucosa

B. Crypt abscesses without structural changes

C. fissuring ulcers and non-caseating granulomas

D. Loss of haustra leading to a "lead pipe" appearance

E. Superficial broad-based ulcers

A patient is diagnosed with Ulcerative Colitis that involves the entire colon (pancolitis). On imaging, the distal ileum also shows mild inflammatory changes. How is this finding in the ileum correctly classified according to your lecture?

A. Skip lesion indicating Crohn Disease

B. Backwash Ileitis

C. Primary sclerosing cholangitis

D. Toxic Megacolon

E. Migratory Polyarthritis

A patient with a known history of severe Ulcerative Colitis suddenly develops high fever, significant abdominal distention, and signs of localized peritonitis. An abdominal X-ray shows a massively dilated transverse colon (>6cm). What is the most likely diagnosis?

A. Volvulus

B. Intussusception

C. Toxic Megacolon

D. Hirschsprung Disease

E. Fibrous Adhesions

Pathology 7

A 60-year-old patient undergoes a routine colonoscopy. The gastroenterologist finds a 2-cm polyp in the sigmoid colon that is attached to the wall by a narrow, long stalk. Microscopic examination shows a "velvety" surface and evidence of epithelial dysplasia. Which of the following is the most accurate classification of this lesion?

A. Sessile Hyperplastic polyp

B. Pedunculated Adenoma

C. Inflammatory Pseudopolyp

D. Sessile Serrated Adenoma

(lacks dysplasia)

E. Peutz-Jeghers Polyp

A 12-year-old girl is brought to the clinic because of multiple dark-brown macules on her lips and buccal mucosa. She has also had episodes of occult gastrointestinal bleeding. A colonoscopy reveals several large, pedunculated polyps. Microscopic analysis of a polyp shows a "tree-like" branching framework of smooth muscle fibers. What is the most likely diagnosis?

A. Familial Adenomatous Polyposis (FAP)

B. Cowden Syndrome

C. Peutz-Jeghers Syndrome

D. Lynch Syndrome (HNPCC)

E. Juvenile Polyposis Syndrome

A 45-year-old woman is diagnosed with adenocarcinoma in the right (ascending) colon. She has a strong family history of endometrial and ovarian cancer. The tumor shows high "microsatellite instability" (MSI). What is the primary underlying molecular defect?

A. Mutation in the APC gene leading to Wnt signaling activation

B. Germ-line mutations in DNA mismatch repair (MMR) genes

C. Activation of the KRAS oncogene

D. Loss of the p53 tumor suppressor gene

E. Hypermethylation of the MLH1 promoter

During a screening colonoscopy, a "flat" (sessile) lesion is found in the right colon. Histology shows "sawtooth" (serrated) gland architecture that extends all the way to the base of the crypts, including lateral growth. Which of the following is true regarding this lesion?

A. It has no malignant potential.

B. It is a Hyperplastic polyp.

C. it is a Sessile Serrated Adenoma (SSA)

D. It is caused by an APC gene mutation.

E. Dysplasia is present

Or

During a routine colonoscopy, multiple small (< 5 mm) polyps are found on the "crests" of the mucosal folds in the rectosigmoid region. Biopsy shows a "sawtooth" appearance of the surface epithelium, but the base of the crypts appears normal and narrow. What is the clinical significance of these polyps?

A. They are precursors to Lynch Syndrome.

B. They have high malignant potential and require annual follow-up.

C. They are Hyperplastic polyps with virtually no malignant potential.

D. They are Sessile Serrated Adenomas.

E. They are always associated with APC mutations.

A 65-year-old male has a 3-cm sessile polyp removed from his cecum. The pathology report describes the architecture as being composed of long, finger-like projections.

Which of the following features of this polyp is the strongest predictor of its potential progression to invasive carcinoma?

A. The presence of a pedunculated stalk

B. The patient's age at the time of diagnosis

C. The villous architectural component and the size of the polyp

(**Villous adenomas** (**finger-like**) **are much more likely to harbor invasive carcinoma than tubular adenomas.**)

D. The location of the polyp in the right colon

E. The presence of inflammatory pseudopolyps nearby

A 19-year-old patient with a known APC mutation is found to have hundreds of colonic polyps. In addition to the polyps, the patient has developed multiple osteomas of the mandible and several desmoid tumors in the abdomen. How is this specific clinical presentation of FAP classified?

A. Lynch Syndrome

B. Gardner Syndrome

C. Turcot Syndrome

D. Attenuated FAP

E. Peutz-Jeghers Syndrome

A 5-year-old child presents with rectal bleeding. A single, smooth-surfaced, rounded polyp is found in the rectum. Histology shows dilated, cystic glands filled with mucin and an abundant, inflamed lamina propria. What is the most likely nature of this polyp?

A. A neoplastic precursor to adenocarcinoma

B. A hamartomatous polyp with no malignant potential if solitary

C. A hyperplastic polyp caused by APC mutation

D. A sessile serrated adenoma

E. A manifestation of HNPCC

A 38-year-old man develops a poorly differentiated adenocarcinoma in the cecum. Despite the "Non-polyposis" name of his hereditary syndrome (Lynch Syndrome), a colonoscopy likely would have found which of the following precursors?

A. Hundreds of small tubular adenomas

B. A single, large villous adenoma

C. A few Sessile Serrated Adenomas

D. Multiple inflammatory pseudopolyps

E. No precursor lesions whatsoever

Pathology 8

A 68-year-old female presents with a change in bowel habits and "pencil-thin" stools. Imaging reveals an annular, "napkin-ring" constricting lesion in the sigmoid colon. Microscopic examination shows a desmoplastic response. What is the most likely clinical outcome of this specific gross morphology compared to a right-sided lesion?

A. Early presentation due to iron deficiency anemia

B. Late presentation as it remains asymptomatic for years

C. Early presentation due to intestinal obstruction

D. Development of mucocutaneous pigmentation

E. High association with Down Syndrome

A 22-year-old male presents with acute perumbilical pain that has shifted to the right lower quadrant over the last few hours. On exam, he has a low-grade fever and tenderness at McBurney's point. Which of the following is the most common initiating event for the pathology suspected in this patient?

A. A viral infection causing lymphoid hyperplasia

B. An obstructing fecalith

C. A carcinoid tumor at the distal tip

D. Invasion by Enterobius vermicularis

E. Ulceration caused by a Meckel Diverticulum

A 55-year-old patient undergoes an incidental appendectomy during another abdominal procedure. The surgeon notices a small, firm, yellow-colored nodule at the distal tip of the appendix measuring 0.8 cm. What is the most likely prognosis for this specific tumor?

A. Highly aggressive with frequent nodal metastasis

B. Poorly differentiated with a high mitotic rate

C. Generally benign clinical course with rare metastasis

D. High risk of Carcinoid Syndrome regardless of liver involvement

E. Strongly associated with Lynch Syndrome

The researchers find that a specific pharmacological agent appears to have a "protective effect" by inhibiting an enzyme that is highly expressed in 90% of colorectal carcinomas. What is this agent?

A. Infliximab

B. Aspirin

C. Immune checkpoint inhibitor therapy

D. Corticosteroids

E. Adalimumab

A patient with right-sided colon cancer is found to have a sporadic (not inherited) epigenetic silencing of the MLH1 gene via hypermethylation. If this patient is treated with immune checkpoint inhibitors, would you expect a response similar to a patient with Lynch Syndrome?

A. No, because sporadic cancers never respond to immunotherapy.

B. No, because epigenetic silencing is reversible and the immune system ignores it.

C. Yes, because both mechanisms result in a DNA mismatch repair deficit and high microsatellite instability (MSI).

D. Yes, but only if the patient also takes high-dose Aspirin.

E. No, because sporadic cancers are always left-sided.

A 65-year-old male with a history of a sedentary lifestyle and a diet high in processed meats is diagnosed with a colonic adenocarcinoma. Molecular analysis of the tumor reveals a mutation in the KRAS gene. Which genetic event typically occurs immediately before the KRAS mutation?

A. Loss of the p53 tumor suppressor gene

B. Germline mutation in mismatch repair (MMR) genes

C. Loss of the APC "gatekeeper" gene

D. SMAD2 and SMAD4 mutations

E. Telomerase activation

A researcher is studying the differences between colorectal cancers arising from the two main molecular pathways. He identifies a group of tumors characterized by "Microsatellite Instability" (MSI). Which histological and clinical feature is most consistently associated with this specific group of tumors in your material?

A. Location in the sigmoid colon and a "napkin-ring" appearance

B. Location in the right colon and the presence of tumor-infiltrating lymphocytes

C. High association with the use of NSAIDs for prevention

D. Strong association with APC gene mutations

E. Formation of small, yellow neuroendocrine nodules

A 65-year-old male with a history of chronic bloody stools is found to have a "napkin-ring" constricting lesion in the distal colon. If this tumor metastasizes, where is the most likely first site of distant spread, and what gross feature would you expect to see there?

A. Lungs; solitary large mass (less common)

B. Bone; osteoblastic lesions

C. Liver; multiple umbilicated nodules

D. Brain; cystic degeneration

E. Spleen; diffuse enlargement

Pathology 9

A 40-year-old patient in the ICU for severe burns develops sudden sepsis and RUQ pain. Ultrasound shows gallbladder distension and wall thickening, but no stones are visualized

What is the most likely diagnosis ?

• A) Acute calculous cholecystitis

• **B) Acute acalculous cholecystitis**

(**Key factors include dehydration, stasis, and vascular compromise rather than stone obstruction**)

• C) Chronic cholecystitis

• D) Gallbladder adenocarcinoma

• E) Biliary sludge syndrome

A 72-year-old woman presents with vague, insidious weight loss and jaundice. She has a history of "gallbladder issues" for thirty years but never had surgery. Imaging shows a 4-cm fungating mass within the gallbladder lumen that has infiltrated the liver.

Which of the following is true?

• A) It is more common in young men than elderly women

• B) Most patients are diagnosed at an early, curable stage

• C) It is typically associated with a "porcelain" appearance on X-ray

• **D) It is the most common extrahepatic biliary tract cancer**

• E) The 5-year survival rate is approximately 25%

A 15-year-old girl with Sickle Cell Disease presents with jaundice and biliary colic. Imaging reveals numerous small, black, "crunchy" stones.

• Question: **What is the chemical composition of these stones?**

• Answer: **Calcium bilirubinate (Pigment stones).**

A gallbladder is removed and sent to pathology. The report describes "thickened, edematous, and hyperemic walls with an outpatient diagnosis of neutrophils within the wall."

• Question: **Is this Acute or Chronic Cholecystitis?**

• Answer: **Acute Cholecystitis.**

What is the most common cause of emergency cholecystectomy?

A. Chronic cholecystitis

B. Acute acalculous cholecystitis

C. Acute calculous cholecystitis

D. Gallbladder adenocarcinoma

E. Gallstone ileus

What is the primary histological feature that distinguishes chronic cholecystitis from acute cholecystitis?

A. Extensive mucosal ulceration

B. Significant wall thickening due to fibrosis

C. Presence of heavy neutrophil infiltration

D. Subserosal hemorrhage

E. Absence of gallstones

What is the primary diagnostic tool used for gallbladder disorders?

A. Abdominal X-ray

B. CT Scan with contrast

C. Ultrasonography

D. MRI

E. Upper Endoscopy

A pathologist is reviewing several gallbladder specimens

A. **Acute Calculous Cholecystitis**: Triggered by the obstruction of the gallbladder neck or cystic duct, leading to chemical irritation and potential bacterial contamination.

B. **Acute Acalculous Cholecystitis**: Typically occurs in severely ill patients (e.g., major burns or sepsis) and is thought to result from ischemia due to gallbladder stasis and inflammation.

C. **Chronic Cholecystitis**: Characterized morphologically by thickening of the gallbladder wall due to fibrosis and potentially the presence of "porcelain gallbladder" due to mural calcification.

A 45-year-old patient undergoes an ultrasound that reveals multiple "faceted," pale-yellow stones within the gallbladder. The physician explains that these stones are formed primarily due to an imbalance in bile composition. Which of the following statements correctly describes the pathogenesis or characteristics of these stones?

A. These stones are formed primarily in the bile ducts rather than the gallbladder.

B. Gallbladder hypomotility is a key factor, as it allows cholesterol crystals to aggregate.

C. Most of these stones (roughly 50-75%) are radiopaque and will show up clearly on a standard X-ray.

D. The primary driver of these stones is the hypersecretion of bilirubin into the bile.

E. These stones are usually associated with chronic hemolytic anemias.