

Case #1 A 55 y/o male is found to have a mass lesion in the anal canal just above the dentate line. Based on the history and histologic findings in the images, the best diagnosis is:

C. “Cloacogenic” carcinoma

Answer: C. Neoplasms that arise in the anal canal include squamous cell carcinoma, adenocarcinoma, small cell carcinoma, undifferentiated carcinoma, and cloacogenic carcinoma. Cloacogenic carcinoma is thought to represent a variant of squamous cell carcinoma with basaloid pattern. (Odze, p. 559-562)

Case #2 A 35 y/o male with HIV presented to the ER with a h/o bloody diarrhea. Colonoscopy with multiple biopsies were performed. Based on the histologic findings in the images, the best diagnosis is:

A. CMV colitis

Answer: A. This is an example of **CMV colitis**. It most commonly occurs in individuals with an immunodeficiency, and often presents with bloody or watery diarrhea. Histologically, the classic appearance is with an “owl’s eye” inclusions, which can be either intranuclear or intracytoplasmic. (Odze, p. 31-35)

Case #3 A 60 y/o female undergoes a screening colonoscopy and is found to have a single left-sided colon polyp. Based on the histologic findings in the images for this case, the best diagnosis is:

C. Hyperplastic polyp

Answer: C. This is an example of a hyperplastic polyp. These polyps classically have a starfish appearance on cross-section due to crowded hypermucinous superficial epithelial cells. These lesions are generally thought to have no increased risk of carcinoma, and therefore do not warrant closer screening. In the right colon, however, the larger sessile serrated polyp is thought to have a low degree of malignant potential. (Odze, p. 327-329)

Case #4 A 70 y/o woman undergoes a screening colonoscopy and is found to have a right sided polyp. Based on the histologic findings in the images, the best diagnosis is:

A. Lipoma

Answer: A. This is an example of a lipoma. They have a predilection for the elderly, and most commonly involve the colon. Larger lesions can cause intussusception or obstruction. (Odze, p. 364)

Case #5 A 45 y/o woman undergoes colonoscopy for chronic diarrhea. No polyps or ulcerations are found. The mucosal surface is somewhat discolored, and multiple biopsies are obtained. Based on the histologic findings, the best diagnosis is:

E. Melanosis Coli

Answer: E. **Melanosis Coli** is caused by pigment accumulation within macrophages in the lamina propria. There are several associations, but use of anthraquinone laxatives tend to be the most common. Brown bowel syndrome results from Vitamin E deficiency or other rare malabsorptive states, and is characterized by pigment (lipofuscin) in the smooth muscle. This gives the bowel a “brown” look to the surgeon, compared to melanosis coli giving a brown appearance to the colonoscopist. (Odze, p. 84-87)

Case #6 A 45 y/o male with a history of constipation and occasional bright red blood on his stool undergoes a colonoscopy. A polypoid lesion is identified in the left colon, and a biopsy is performed. Based on the histologic findings, the best diagnosis is:

E. Prolapse polyp

Answer: E. This is an example of a prolapse polyp. While this is a form of a hyperplastic polyp, it has additional features of fibromuscular hyperplasia with thickening and splaying of the muscularis mucosae vertically into the lamina propria. (Odze, p. 331-333)

Case #7 A 55 y/o male with a history of intermittent bloody stool undergoes a colonoscopy. A large polyp is found and biopsied. Based on the histologic finding shown, what is the best diagnosis:

C. Tubular Adenoma with signet ring carcinoma

Answer: C. **Tubular adenoma with signet ring cell carcinoma** This case shows surface changes of an adenoma with underlying carcinoma. The carcinoma portion has signet ring features.

Case #8 A 35 y/o black male with a history of renal transplant and unspecified GI complaints undergoes colonoscopy for the evaluation of GVHD. Based on the histologic findings, the best diagnosis is:

D. CMV infection

Answer: D. **CMV** This is another case of CMV infection of colitis. It is not uncommon for the same entity to come up multiple times on tests. Most of the time CMV inclusions can be found in the endothelial cells of vessels. These cells enlarge and can cause ischemia of the tissue. They can also infect the epithelial cells of the glands (although less commonly in the author’s opinion).

Case #9 A 55 y/o female is found to have an abdominal mass. A surgery a mass was found within the mesentery abutting the stomach and small intestine. Immunohistochemistry found the cells of interest to be positive for smooth muscle actin but negative for CD34, CD117, S-100, and desmin. Based on the histologic immunohistochemical findings, the best diagnosis is:

E. Fibromatosis

Answer: E. This is an example of **fibromatosis**. All of the possible answers are very plausible given the histologic findings, and the immunohistochemistry is very important to separate these entities. GIST should be CD117 positive and are usually CD34 positive. S-100 should be positive in both a schwannoma and mesenteric melanoma. A smooth muscle tumor is positive for both desmin and smooth muscle actin. (Sternberg, 4th Ed., p. 1555)

Case #10 A 45 y/o Asian male with a history of chronic hepatitis B presents to the ER with a liver mass by CT scan. Surgery is performed and representative images of the histology are shown. Based on the findings, the best diagnosis is:

A. Hepatocellular carcinoma

Answer: A. This is an example of hepatocellular carcinoma. Note the nodules and enlarged cell plate thickness (this can be highlighted by a reticulin stain)

References:

Surgical Pathology of the GI Tract, Liver, Biliary Tract, and Pancreas, Odze, R. et al. First Edition. 2004.

Sternberg's Diagnostic Surgical Pathology. Mills, SE, et al. Fourth Edition. 2004.

Notes for question set:¹

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