Diseases of the Colon

The colon (a.k.a. the large intestine) is an organ that is mainly responsible for the absorption of water from the fecal stream. It begins in the right lower quadrant of the abdomen as the cecum, goes up towards the liver on the right side as the ascending colon, travels across the abdomen from right to left as the transverse colon, goes down towards the pelvis on the left side as the descending colon, and ends in the pelvis with a “S” shaped portion called the sigmoid colon.

As with most other organs, diseases of the colon can be divided into non-cancerous and cancerous. Non-cancerous conditions include inflammatory bowel disease (IBD), arteriovenous malformations, volvulus, ischemic colitis, and diverticulosis/itis.

a. Inflammatory Bowel Disease (IBD) can be further divided into two disease states – Crohn’s disease and Ulcerative Colitis (UC). Crohn’s disease can affect the entire GI tract from mouth to anus (see small bowel disorders handout). Ulcerative Colitis only affects the colon. In summary, these are both autoimmune diseases which can cause bloody diarrhea as well as a host of other symptoms. Surgical treatment and cure for UC involves removing the entire colon and rectum.

b. Arteriovenous malformations of the colon can occur anywhere and are one cause of lower GI bleeding (manifested usually as bright red blood per rectum). Usually the treatment of these is via endoscopy or interventional radiology. Rarely, is surgical intervention needed.

c. Volvulus – refers to the colon twisting on itself causing a blockage/obstruction. This occurs mainly in the cecum and sigmoid colon. Surgical removal of the area is usually the treatment of choice. Colonoscopy may be used in the acute setting to reduce or untwist the affected area of colon.

d. Ischemic Colitis – refers to an acute or chronic condition that causes inflammation of the colon and thickening of the wall with decreased function secondary to inadequate blood flow to the colon. Eventually (or if acute) the affected area of the colon requires surgical removal.

e. Diverticulosis/itis – A very common condition where pouches form in the colon wall in areas that have become weakened (usually due to long-standing constipation). Fecal material and undigested food can become stuck in the opening to these pouches which in turn become inflamed, infected, and can even rupture. Symptoms include fever, diarrhea, abdominal pain especially in the left lower quadrant, and lower GI bleeding (the pouch can bleed spontaneously when not inflamed). Treatment involves oral and/or IV antibiotics and surgical removal of the affected portion of colon for repeated episodes/attacks (usually sigmoid colon). Surgical removal (which we offer via laparoscopy) is ideally not performed in the acute setting but once the inflammation has resolved.

Colon cancer (referring to colonic adenocarcinoma) is very prevalent and excellent surgical (in addition to chemotherapeutic) treatment options are available with high cure rates. Colon cancer is usually discovered during colonoscopy and confirmed with biopsy results. Typically a CT scan is obtained to ensure that there is no spread of disease outside the colon. Then surgical resection (laparoscopic-assisted surgery in our practice) is the treatment of choice. Chemotherapy after surgery depends on the aggressiveness of the tumor, the number of lymph nodes (if any) which are involved, and whether there was spread of tumor outside the colon encountered at the time of the operation (most commonly metastasis to the liver). In cases of advanced colon cancer, obstruction (blockage) or perforation (rupture) of the colon results in the need for urgent/emergency surgical intervention.
Colonic polyps are frequently encountered during colonoscopy. Colonic polyps are not benign, they should be considered as pre-malignant (or pre-cancerous) growths. Follow-up colonoscopy is absolutely necessary and if cancer is found in the polyp or the polyp is too large to be completely removed by colonoscopy then surgical intervention is required. There are several genetic syndromes that cause the formation of hundreds of colonic polyps (e.g. FAP – Familial Adenomatous Polyposis). These patients will develop colon cancer if their condition is not recognized and treated appropriately at an early age. Another example of a genetic condition that leads to colon cancer is HNPCC – Hereditary Non-Polyposis Colorectal Cancer (formerly known as Lynch syndrome) – these patients do not form polyps.

As with any hollow organ (stomach, small intestine, large intestine) a complete blockage (obstruction) or a perforation (tear/rupture) requires immediate/emergency surgical intervention.