TUMORS OF THE COLON

Polyps of the colon

General Considerations

- Adenomatous polyps of the colon and rectum: common benign neoplasm.
- Location: most frequently in the sigmoid and rectum.
- Incidence: increases with age.
- Several familial polyp syndromes: some of them - strong predilection for carcinoma.

Symptoms

- Usually asymptomatic
- Painless rectal bleeding

Diagnosis

- Sigmoidoscopy
- Double contrast barium enema
- Colonoscopy
- When a polyp is found in the rectum, the colon should be studied by x-ray or colonoscopy.

Important question: Polyps - ? precancerous

- Pedunculated adenomatous polyps: If less than 1 cm in diameter: very slight malignant potential. Simple polypectomy through the colonoscope. Greater than 1 cm in diameter: cancer risk → 2-10% or more, must be removed at colonoscopy. Risk: increases with the size.
- Villous adenomas: Usually sessile. If less than 2 cm: malignancy in 10%. Larger than 2 cm: malignancy in up to 50%.
- Removal is required: at colonoscope or surgical resection.
- The sufficiency of polypectomy at colonoscope as the sole treatment is determined by the histologic characteristics of the cancer and the extent of invasion of the stalk and the mucosa.
- Polyps with high malignant potential: colectomy with ileostomy or ileoproctostomy (after stripping the rectal mucosa).
- Colonic polyps tend to recur. Malignant potential → colonoscopic surveillance at 1 postpolypectomy.
- No polyps: a repeat examination is indicated 2 years later unless clinically indicated sooner.

Multistage model of colon cancer

Cancer of the colon and the rectum

General Considerations

Carcinoma: most common cancer of the colon and rectum; accounts for 15% of cancer death, second only to cancer of the lung. Lymphoma, carcinoid, melanoma, fibrosarcoma, other types of sarcoma: rare.

Incidence and predisposing causes of carcinoma

Standard Risk

- After age 40 (both men and women).
• Males are affected slightly more commonly than women. The highest incidence in patients about 50 years of age, but cases have been reported in younger persons and even in children.

High Risk (listed in approximate decreasing frequency or importance)
• Rectocolonic polyps (familial polyposis, villous polyps, adenomatous polyps, history of juvenile polyps). The presence of polyps of the left colon or rectum
• Cancer elsewhere in the body. About 5% of colon cancer patients have multiple primaries.
• Familial history of colon cancer.
• Ulcerative colitis and Crohn’s disease
• Granulomatous colitis.
• Immunodeficiency disease.

Genetic abnormalities during the progression of colon cancer

Current concepts on the environmental causation of colon cancer

Distribution of colon tumors
More aboral - higher incidence.
• Cecum, ascending colon: 16%
• Transverse colon: 5%
• Descending colon: 9%
• Sigmoid: 20%
• Rectum: 50%

Many lesions of the rectum and colon lie within reach of the examining finger. The entire colon should be viewed.

Essentials of diagnosis of colon cancer
• Most colon cancers are asymptomatic
• Altered bowel function (constipation) and bright red rectal bleeding in distal lesions.
• Blood in the feces, unexplained anemia, weight loss in right-sided carcinomas.
• Palpable mass involving colon or rectum valuable when present.
• Endoscopic or radiographic evidence of neoplasm.

Clinical findings - Lesions either in the right or left side of the colon
• Persistent change in the customary bowel habits: physician should investigate the colon.
• Bright red blood per rectum: cardinal.
• Hemoccult-positive stool: more subtle and frequent
• Acute abdominal emergency: perforation, colonic obstruction (due to circumferential narrowing, not intussusception).
• Endoscopic or radiologic examination of the large bowel.

Clinical findings - Carcinoma of the right side of the colon
• Fluid fecal stream, large bowel lumen → obstruction is less frequent than in the left side.
• Vague abdominal complaint → cramp-like pain, simulating cholecystitis, appendicitis.
• Secondary anemia, weakness, weight loss: in half of patients.
• Stool: usually positive for occult blood. Gross blood: rare.
• Diarrhea: likely to have.
The first symptom may be the discovery of a palpable mass in the right lower quadrant.

Clinical findings - Carcinoma of the left side of the colon

- Obstructive symptoms: predominate, particularly increasing constipation. Short bouts of diarrhea: may be.
- Acute colonic obstruction: occasionally the first sign.
- Small amount of bright red blood with bowel movements: common
- Anemia: in 20% of cases.
- History of weight loss: in 50% of cases.
- Palpable mass: at times.

Differential diagnosis of colon cancer

- Diverticulitis.
- Functional bowel distress.
- Hemorrhoids.
- Other causes of iron deficiency anemia.

Treatment of colon cancer

Surgical

Dukes stage A (mucosal involvement only), and

Dukes stage B (local invasion but without penetration of the serosa): high cure rates after surgical resection.

Dukes stage C (involvement of regional lymph nodes): surgical en bloc resection + adjuvant chemotherapy with fluorouracil and levamisole. 4-year survival rate: 60%.

Dukes stage D (distant metastases): resection - usually for palliation. Occasionally, surgical pursuit of single metastases to the liver is warranted.

Radiation therapy

- Useful for rectal carcinomas.

Biological therapy

- Anti-VEGF: bevacizumab

Prognosis of colon cancer

- Over 90% of patients are suitable for either curative or palliative resection. Operative mortality is less than 3%. Overall 5-year survival rate: 50%. 5-year survival rate if no evidence of lymphatic or blood vessel invasion: 60-70%. Local recurrence: 10-15%. (Special precaution is required at operation to avoid implantation of tumor cells.)
- Early identification of local recurrence. Careful follow-up with sigmoidoscopy and barium enema every 6 months for 2 years and yearly thereafter.
- Carcinoembryonic antigen (CEA): increased level. Useful if monitored 6-month intervals.