

Colonic adenomatous polyps and diverticular disease

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Section: Abdominal imaging

Imaging Technique: Digital radiography

Case Type: Clinical Cases

Authors: WK Lee, VA Duddalwar, CJ Roche

Patient: 57 years, male

Clinical History:

57 year old man with lower abdominal pains was investigated with colonoscopy and subsequently referred for a barium enema.

Imaging Findings:

57 year old man with lower abdominal pains was investigated with colonoscopy and subsequently referred for a barium enema.

Discussion:

A polyp is an abnormal mass which projects into the lumen of a hollow viscus above the level of the mucosa. 10% of polyps are neoplastic and 90% are non-neoplastic (hamartomatous, inflammatory). Neoplastic polyps are epithelial (adenomatous) or non-epithelial in origin. Adenomatous polyps are classified as tubular (75%), tubulovillous (15%) and villous (10%). The distribution is similar to colonic carcinoma ie. rectosigmoid (50%), descending (15%), ascending (15%), and transverse (10%). Adenomatous polyps are pre-malignant and the risk of malignancy is higher if the polyp is villous (30-70%), greater than 2 cm in size (45%), and demonstrates atypia on histology. Incidence of synchronous polyp is 50% and metachronous polyp 30%. Incidence of synchronous colonic carcinoma 1-5% and metachronous carcinoma 5-10%. Radiological signs of a polyp on double contrast enema depends on the angle at which it is viewed and its relationship to the barium pool. Signs include (1) meniscus sign. A meniscus of barium forms around the base of the polyp. When viewed en face, there is a ring shadow with a sharp inner ring due to the soft tissue-barium interface and a fuzzy outer ring due to fading of the barium peripherally. (2) When it lies within a pool of barium, it appears as a negative filling defect. (3) When viewed obliquely, there is a thin meniscus of barium over its surface creating "the bowler hat sign". (4) If the polyp is pedunculated, a stalk is visible with a parallel tram track of barium. These signs are useful to help differentiate a colonic filling defect from a colonic diverticulum. Radiological signs of a diverticulum includes (1) when viewed en face or obliquely, barium pool within the diverticulum creates a sharp outer margin and a fuzzy inner ring as the barium fades centrally. (2) When viewed en face within a pool of barium, the diverticulum fills with contrast and can no longer be differentiated. (3) When viewed tangentially or in profile, the diverticulum protrudes beyond the expected contour of the colon.

Differential Diagnosis List: Colonic adenomatous polyps and diverticular disease.

Final Diagnosis: Colonic adenomatous polyps and diverticular disease.

References:

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The large bowel.

In Grainger RG, Allison DJ (ed) Diagnostic radiology: A textbook of imaging.

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Dahnert W

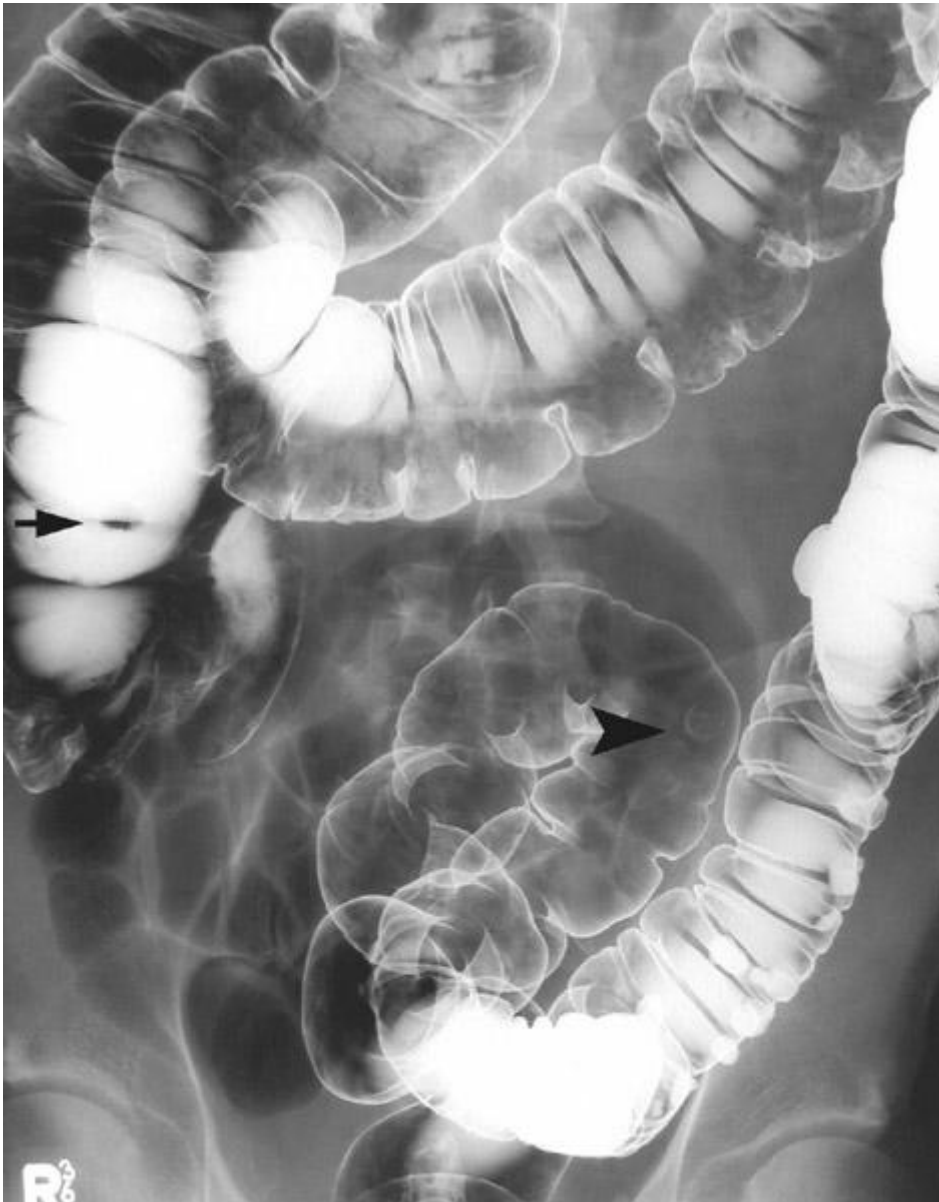
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Figure 1

a



Description: Double contrast barium enema (DCBE) prone film demonstrates a sessile 1cm polyp in mid-sigmoid colon (arrowhead) and a second filling defect in cecum (small arrow). **Origin:**

b



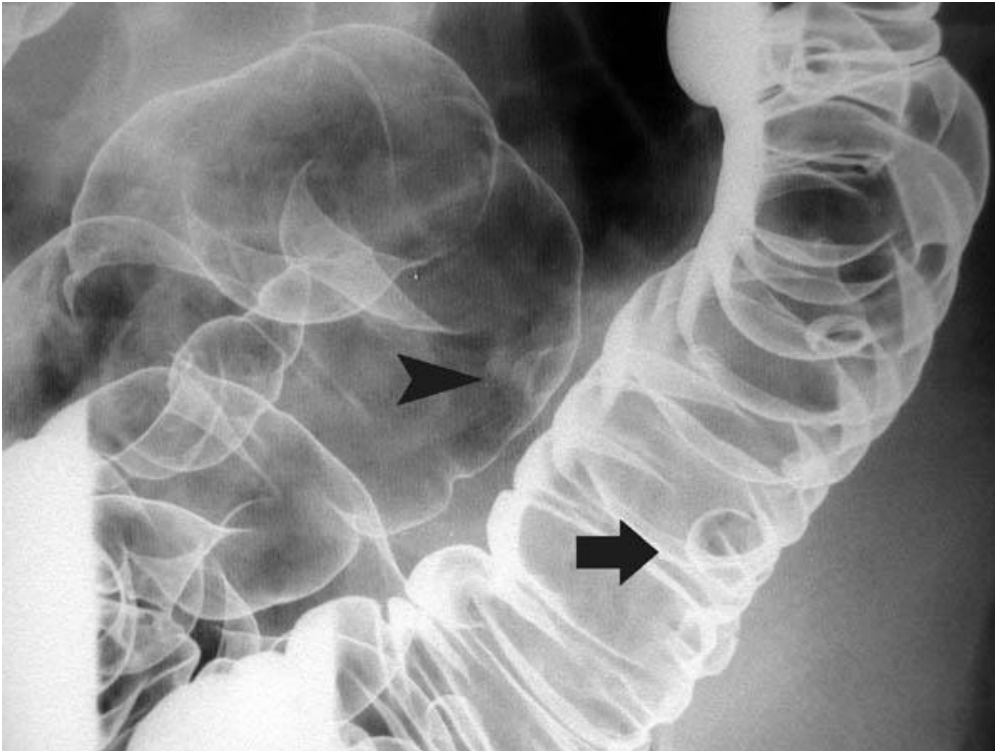
Description: DCBE right lateral decubitus film demonstrates mid-sigmoid sessile polyp (arrowhead) and cecal polyp (small arrow). Descending colon diverticula are seen en face. **Origin:**

c



Description: Magnified view of the sigmoid colon demonstrates “the bowler hat sign” of the mid-sigmoid sessile polyp seen obliquely (arrowhead) and diverticula in profile. **Origin:**

d



Description: Magnified view of the sigmoid colon demonstrates " the bowler hat sign" of the mid-sigmoid sessile polyp seen obliquely (arrowhead) and diverticula en face (arrow). **Origin:**

e



Description: Magnified view of the sigmoid colon demonstrates the mid-sigmoid sessile polyp en face (arrowhead). **Origin:**

f



Description: Magnified view of the cecum demonstrates a sessile 1.5cm polyp which was originally seen as a negative filling defect in Fig. 1a (arrowhead). **Origin:**