

# 70-YEAR-OLD FEMALE PRESENTING WITH RECTOSIGMOID (COLONIC) XANTHOMA AND MULTIPLE BENIGN POLYPS — CASE REPORT

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Xanthomas are benign lesions frequently described in the upper gastrointestinal tract, most commonly in the stomach. In the stomach, these lesions are usually associated with chronic gastritis, intestinal metaplasia, *H. pylori* infection and duodenogastric reflux following gastric surgery, but are otherwise indolent. Xanthomas in the upper gastrointestinal tract occur in a broad age range, 45-82 years (mean: 65 years). Rare cases have also been described in the esophagus, duodenum, small intestine, colon and rectum. Rectosigmoid location of xanthomas have been described in rare cases. We present a case of polypoid xanthoma in the rectosigmoid colon occurring in a 70-year-old female with a history of hyperplastic polyps.

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## Case presentation

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### Patient presentation

A 70-year-old female with a prior history of benign hyperplastic polyps four years earlier presented for elective follow-up outpatient colonoscopy. The patient's past medical history included type II diabetes mellitus, hyperlipidemia, coronary artery disease, hypertension, and congestive heart failure with pulmonary hypertension. Family history was positive for lung carcinoma in her mother. The patient's laboratory blood work taken from around the time of the colonoscopy had shown normal fat values [cholesterol 178 mg/dl; (normal, 100-200 mg/dl), triglycerides 149 mg/dl; (normal, 25-150 mg/dl), HDL 33 mg/dl; (normal, 40-59 mg/dl), LDL 115 mg/dl; (normal 0-129 mg/dl)], a slight anemia demonstrated by a mildly lowered Hb/Hct and normal WBC with normal differential and normal platelet count, normal TSH, and normal liver enzymes. On the present elective follow-up colonoscopy, mild diverticulosis, internal and external haemorrhoids and multiple polyps were found. Colonic polyps were removed and revealed a tubular adenoma within the ascending colon and

the hepatic flexure, and hyperplastic polyps within the transverse colon, sigmoid colon and rectum. A second distinct rectosigmoid polyp measuring 0.6 cm showed changes of polypoid xanthoma.

### Histology

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Histopathologic examination of hematoxylin-eosin stained sections from the rectosigmoid polyp revealed colonic mucosal biopsy fragments showing an intact superficial colonic mucosa with mild hyperplastic change and a lamina propria entirely replaced by compactly arranged large, round to oval foamy cells with distinct cell membranes (Fig. 1 A-C). Nuclei of these cells were small, bland and centrally located with cytoplasm that contained multiple small vacuoles (Fig. 2). Colonic crypts showed mild crypt displacement by the expanding aggregate of foamy cells. Immunohistochemical stain was positive for CD68, negative for CAM 5.2 and special stain for mucicarmine was negative (Fig 3 A-C). Special stains for acid fast bacilli and fungal organisms were negative. Lastly, a Gram stain and PAS and PAS-D were negative, excluding presence of possible Whipple's disease or other bacterial organisms.

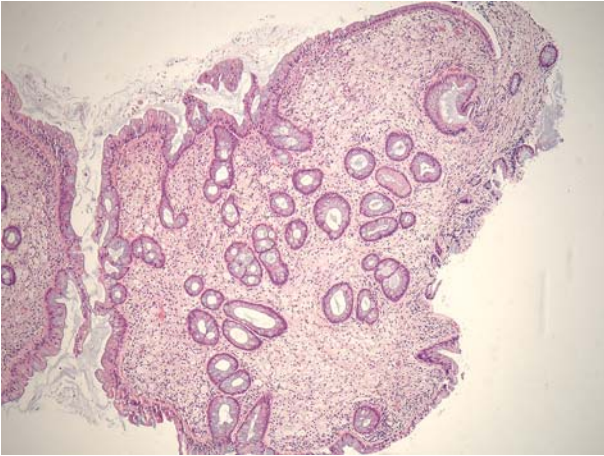


Fig. 1A. Polypoid fragment of rectosigmoid colon with xanthoma (H&E, magnification 5×)

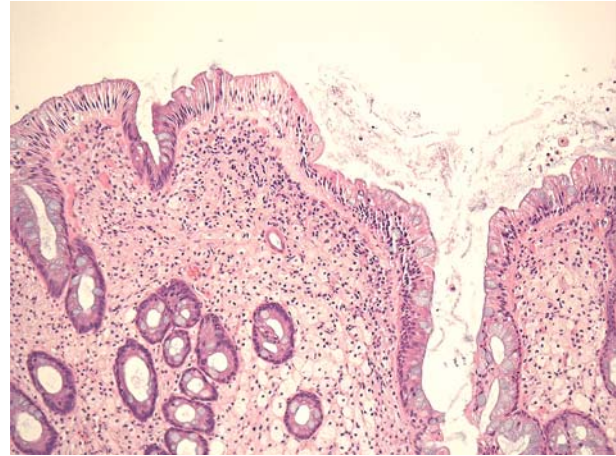


Fig. 1B. Polypoid fragment of rectosigmoid colon with intact superficial colonic mucosa showing mild hyperplastic change and a lamina propria replaced by foamy histiocytes (H&E, magnification 10×)

## Discussion

Xanthomas present as small polypoid changes in the mucosa with presence of lipid-laden macrophages in the lamina propria. The large number of lipid-laden cells results in the grossly yellowish (xanthomatous) appearance of the lesion. Xanthomas are found in the body and fundus of the stomach in the vast majority of cases [1]. In the stomach, these lesions are commonly associated with chronic gastritis [2], are documented to occur status post gastrectomy [3] and are assumed to arise as a reaction to tissue damage [4]. Rare cases of xanthomas in the small intestine have been described. One reported case of xanthomatosis of the small bowel was associated with chronic intestinal ischemia. Another report from the small bowel entailed a case of a 9-year-old patient with history of chemotherapy for Burkitt's lymphoma one month prior to a partial small bowel resection for intestinal obstruction; in the absence of neoplasia, the xanthomatous changes were etiologically felt to represent observed obstruction [5]. The etiology of colonic type xanthomas remains unknown. Similar to gastric xanthomas, mucosal damage and chronic injury are presumed to have a role in the pathogenesis of this entity [6]. As a response to mucosal damage, lipids derived from cell membranes may be captured by the interstitial histiocytes [4]. Our patient did not demonstrate any regenerative changes in the mucosa overlying the rectosigmoid xanthoma. Yet, the patient did have a history of diverticulosis as well as multiple polyps, including hyperplastic polyps, which have been considered to be an exaggerated regenerative response to mucosal damage. Associated hyperplastic changes within the rectum and a history of hemorrhoids may be linked to the possibility of prolapse; however, rectal

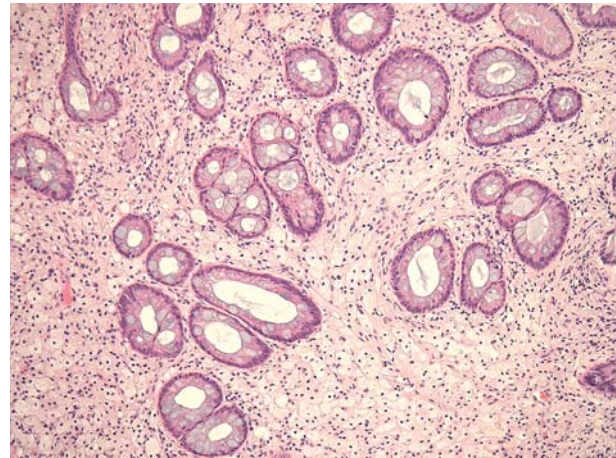


Fig. 1C. Histiocytes arranged between glands in the lamina propria. Mild crypt displacement is present (H&E, magnification 20×)

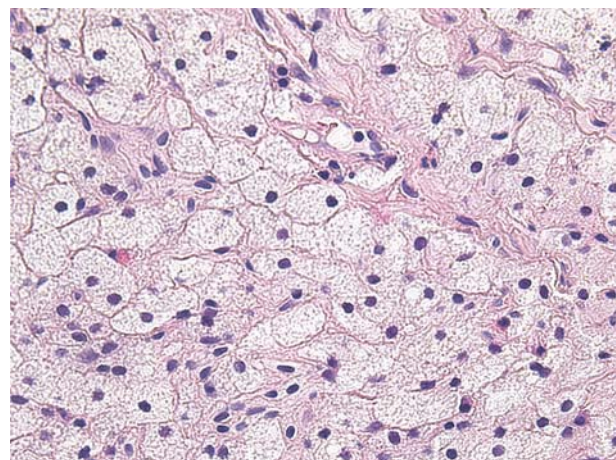


Fig. 2. Xanthoma – aggregate of histiocytes with small, centrally located, bland nuclei and foamy clear cytoplasm containing multiple small vacuoles (H&E, magnification 40×)

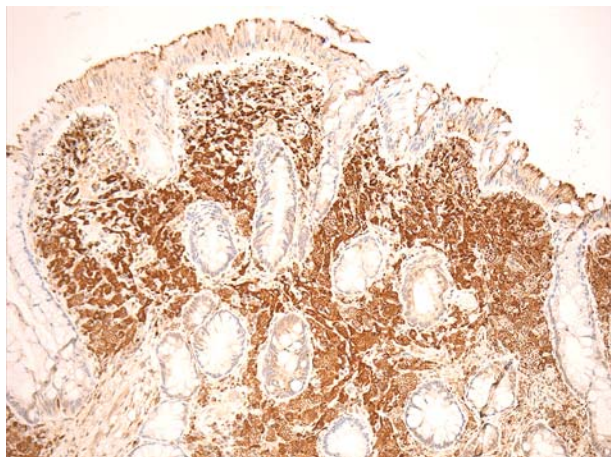


Fig. 3A. Xanthoma cells showing extensive positive staining with CD68 (CD68 immunohistochemical stain, magnification 10×)

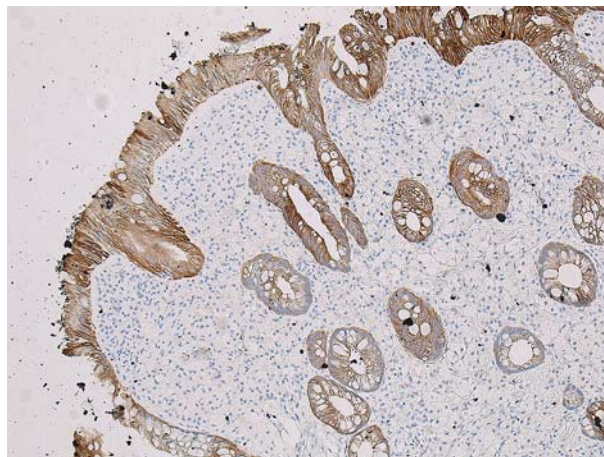


Fig. 3B. Xanthoma cells are negative with cytokeratin CAM5.2 immunohistochemical stain. Overlying superficial rectosigmoid colon mucosa with positive staining of epithelial glandular crypt lining cells (CAM 5.2 immunohistochemical stain, magnification 10×)

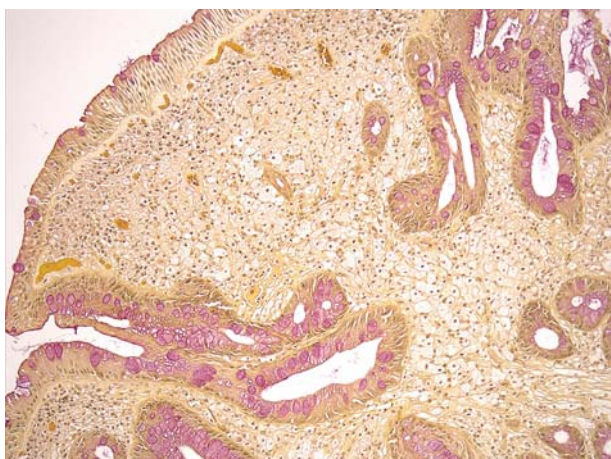


Fig. 3C. Goblet and glandular cells of the rectosigmoid colon showing positive mucicarmine staining, xanthoma cells in the lamina propria are negative for mucin (Mucicarmine, magnification 10×)

prolapse is usually not associated with a xanthomatous reaction. There is no documented relationship between the degree of hyperlipidemia and the development of xanthomas in the GI tract [7]. Isomoto *et al.* reported no relationship between gastric xanthomas and diabetes mellitus, hypercholesterolemia or skin xanthomas [8]. Nakasano *et al.* found diabetes mellitus, constipation and hyperlipidemia in 2, 1 and 7 patients of a total of 25 patients with colorectal xanthomas [9]. In 4 cases of rectosigmoid (colonic) xanthomas from Miliauskas, no association with cutaneous xanthomas or increased lipid levels were noted and only 1 patient had diabetes mellitus [10]. In our patient, there was a history of type II diabetes mellitus and hyperlipidemia which was controlled by medications as demonstrated by a normal laboratory lipid profile. Our case adds to the literature of this uncommonly

described benign entity in the lower gastrointestinal tract. Uniquely, in this patient, the rectosigmoid (colonic) xanthoma presented with concurrent multiple benign polyps.

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