

Lipohyperplasia of the Ileocecal Valve Mimicking Malignant Neoplasm on CT: A Case Report¹

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We report a case in which CT scanning revealed lipohyperplasia of the ileocecal (IC) valve and cecum with acute inflammation and ulceration mimicking malignant neoplasm. At unenhanced CT, lesion attenuation was lower than that of back muscle, and at contrast-enhanced CT, the lesion was seen as a lobulated polypoid mass with inhomogeneous enhancement, pericecal fat infiltration, and pericecal lymphadenopathy. Although these findings mimic those of malignant neoplasm, the typical location of the mass, involving the IC valve, and the low attenuation observed at unenhanced CT, can help distinguish it from other masses.

Index words : Colon, CT
Colon, diseases
Colon, abnormalities

Lipohyperplasia of the ileocecal (IC) valve is a fairly common benign entity in which excessive deposition of adipose tissue in the submucosal layer of the IC valve, leads to thickening and outpouching of the valve in the cecum. Narrowing of the lumen is also sometimes observed. The condition is the most common cause of prominent or enlarged IC valve (1, 2), other causes being lipoma, lymphoma, idiopathic edema, or edema associated with inflammatory bowel disease. Although a number of reports have described lipohyperplasia of the IC valve, its CT findings mimicking malignant neoplasm, have not, as far as we know, been discussed (3 - 6). We report a case in which contrast-enhanced CT scanning revealed lipohyperplasia of the IC valve and cecum

mimicking malignant neoplasm.

Case Report

A 39-year-old man was admitted to our hospital complaining of right lower abdominal pain. Palpation revealed no abdominal mass, and routine laboratory tests, including blood chemistry, urinalysis, liver function tests and those for tumor markers were normal.

Barium enema, however, indicated the presence of a smooth-surfaced polypoid mass at the IC valve (Fig. 1A); in the center of the mass, reflux of barium in the terminal ileum was observed. For further evaluation, helical CT scanning with bolus injection of 120 ml of contrast medium (3 ml/sec by mechanical injector) was performed; the lobulated mass was present at the lower surface of the IC valve and posteromedial wall of the cecum measured 3 × 2 × 2 cm. Unenhanced CT scanning demonstrated a hypoattenuated area (mean, 20 Hounsfield units) relative to adjacent back muscle (Fig. 1B); enhanced CT revealed intense inhomogeneous enhancement compared to normal colonic wall (Fig. 1C). Soft tissue strands around the medial wall of the cecum

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were present in pericecal fat, and pericecal lymphadenopathy was also observed. Because of its inhomogeneous enhancement, polypoid appearance, pericecal soft tissue stranding and the presence of lymphadenopathy, this was thought to be cecal carcinoma.

On the basis of this diagnosis, the patient underwent right hemicolectomy; gross examination of the surgical specimen showed that the mass was located at the lower surface of the IC valve and posteromedial wall of the cecum (Fig. 1D). Microhistopathologic examination revealed prominent deposition of adipose tissue without a capsule in the submucosa, with acute inflammation and ulceration of the ileocecal and colonic mucosa. In addition, among the fatty infiltration and evenly distributed throughout the entire lesion were numerous arterioles and veins of various sizes (Fig. 1E). In the pericecal lymph nodes, nonspecific reactive hyperplasia was present. The final diagnosis was polypoid lipohyperplasia of the IC valve with involvement of the cecal submucosa.

Discussion

Lipohyperplasia of the IC valve is a fairly common be-

nign entity in which excess adipose tissue is deposited in the submucosa. The excess produces a large, protruding IC valve that grossly resembles the uterine cervix (1, 2). The etiology of lipohyperplasia of the IC valve is still unknown; some studies have suggested that the presence of fatty tissue in the valve is normal (3, 7). It has been suggested that the condition is associated with obesity and lipid metabolism (3, 8), the degree of lipohyperplasia having been found to correlate with the degree of right ventricular fatty infiltration of the heart, pancreatic fatty infiltration, and a patient's greater body weight (3).

Lipohyperplasia patients may have nonspecific clinical symptoms such as right lower abdominal pain, and this is why, presumably, radiographic or endoscopic studies are performed (3, 7 - 9). In addition, the presence of an IC valve mass may be discovered incidentally at barium enema or during resections for cecal, appendical or sigmoid neoplasia. Lipohyperplasia behaves as an intestinal tumor, causing obstruction and, sometimes, intussusception or bleeding (7).

Since polypoid lipohyperplasia of the IC valve protrudes into the cecal lumen, barium enema can demonstrate a luminal filling defect with or without a central slit or satellite configuration (1). In our case, barium ene-

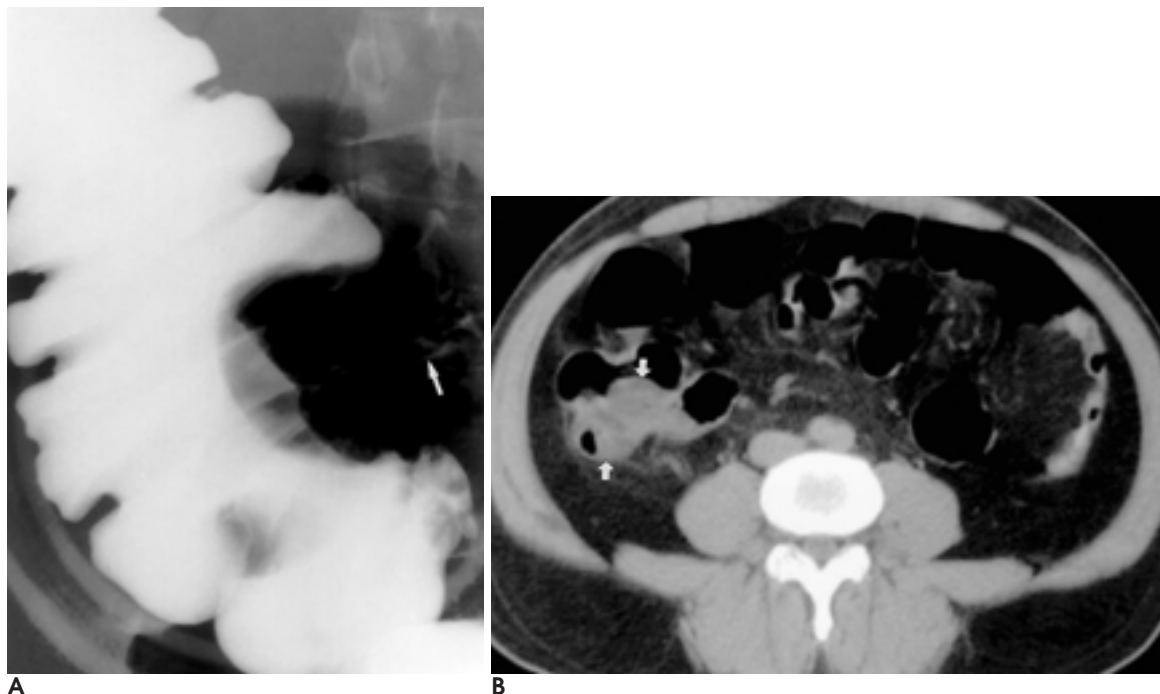


Fig. 1. Thirty nine-year-old man with lipohyperplasia of the ileocecal valve and cecum mimicking malignant neoplasm.

A. Barium enema shows a smooth-surfaced polypoid filling defect of the ileocecal valve. Note reflux of barium in the terminal ileum (arrow) at the center of the mass.

B. On unenhanced CT scan, the mass shows homogeneous hypoattenuation relative to adjacent back muscle. Note that the lobulated mass is identified from lower lip and lower surface of the ileocecal valve and posteromedial wall of the cecum (arrows).

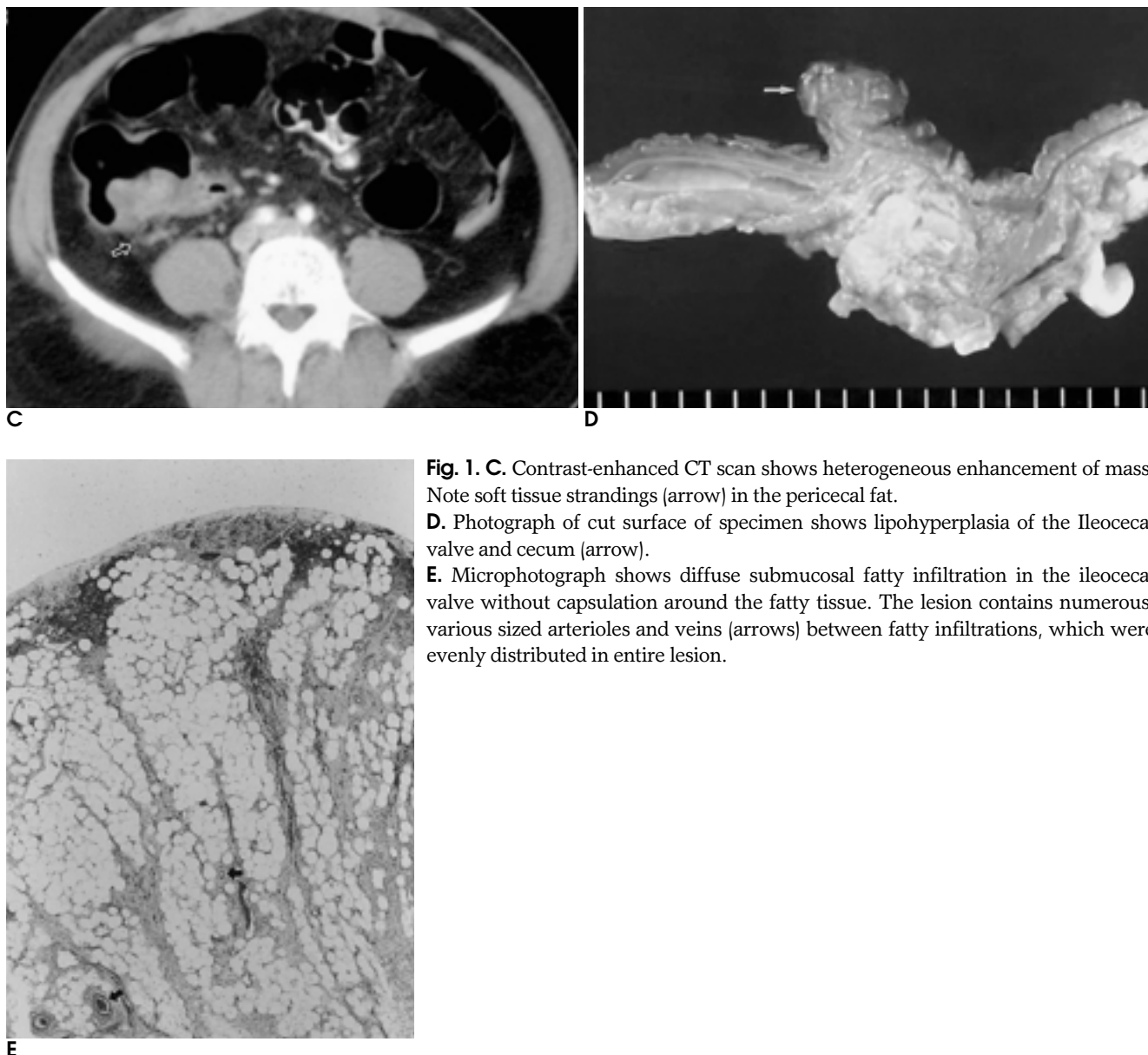


Fig. 1. **C.** Contrast-enhanced CT scan shows heterogeneous enhancement of mass. Note soft tissue strandings (arrow) in the pericecal fat.
D. Photograph of cut surface of specimen shows lipohyperplasia of the ileocecal valve and cecum (arrow).
E. Microphotograph shows diffuse submucosal fatty infiltration in the ileocecal valve without capsulation around the fatty tissue. The lesion contains numerous, various sized arterioles and veins (arrows) between fatty infiltrations, which were evenly distributed in entire lesion.

ma revealed the presence of a large filling defect of the IC valve and a smooth-surfaced polypoid mass. Lipohyperplasia is one of the many causes of an enlarged or prominent IC valve (1, 2); others which range from abnormal variant to carcinoma, include lipoma, prolapse of the valve into the cecum, adenoma, inflammatory bowel disease, or - less likely - adenocarcinoma or lymphoma. In some cases, it is not possible to differentiate between a benign and malignant lesion.

In our case of lipohyperplasia of the IC valve and cecum, unenhanced CT scanning revealed a lobulated polypoid mass with internal low attenuation, while enhanced CT scanning showed inhomogeneous enhancement of a luminally protruding mass, pericecal fat infiltration, and pericecal lymphadenopathy. Due to this in-

homogeneous enhancement, pericecal stranding and enlarged pericecal lymph nodes, we wrongly believed that the mass was a cecal carcinoma. Microscopically, however, a prominent deposition of adipose tissue, without a capsule, was observed in the submucosa. In addition, the fatty infiltration contained arterioles and veins of various sizes; the exact nature and function of those blood vessels is unclear. We believe that these histological findings are linked to the inhomogeneous enhancement mimicking malignant neoplasm revealed by enhanced CT scanning. We also believe that the cause of the patient's right lower abdominal pain was acute inflammation and ulceration of the ileocecal and colonic mucosa.

In summary, lipohyperplasia of the IC valve in which

there is acute inflammation and mucosal ulceration, and in which a protruding mass with inhomogeneous enhancement, pericecal stranding and pericecal lymphadenopathy is observed, is rare. Although these findings can mimic malignant neoplasm, this typical location of the mass, involving the IC valve, together with the low attenuation revealed by unenhanced CT scanning, can help distinguish it from other masses.

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