

A Cecal Lipoma Causing Intussusception, Detected on Routine Outpatient Abdominal Ultrasound

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Abstract

This case reports on a patient presenting with abdominal pain of 1-month duration; in whom, ultrasound (US) detected a colonic lipoma with intussusception. Further investigation with computed tomography confirmed this finding, and successful endoscopic removal of the lipoma was performed. This case highlights the importance of careful evaluation of the region of interest during US, knowing the appearance of lipoma on US and other modalities, thus aiding its adequate management.

Keywords: Colonic lipoma, computed tomography, submucosal lipoma, ultrasound

INTRODUCTION

Lipoma is a rare cause of a mass in the gastrointestinal tract, with the colon being the most common site of occurrence. It has an overall reported incidence ranging between 0.2% and 4.4%.^[1] Majority of lipomas are asymptomatic and detected incidentally during endoscopy or computed tomography (CT). We report on a case of symptomatic colonic lipoma detected on routine ultrasound (US) examination, with discussion on the imaging findings and treatment options.

CASE REPORT

A 68-year-old female underwent outpatient US abdomen for investigation of intermittent abdominal pain of 1-month duration. She was otherwise well, with no concerning symptoms, such as gastrointestinal bleeding or weight loss. Subsequent hematological and biochemistry results were normal. US was performed by an experienced operator. A well-defined, pedunculated hyperechoic mass, with minimal vascularity on color Doppler, measuring 5.4 cm × 4.0 cm, was visualized in the right mid-abdomen [Figure 1]. Superimposed intussusception was also noted [Figure 2].

Contrast enhanced CT of the abdomen and pelvis was then performed, which demonstrated a well-defined pedunculated hypodense mass in the right side of the abdomen, telescoping

into the ascending colon [Figure 3]. The density of the mass measured −105 Hounsfield units, compatible with internal fat content. Mild pericolonic fat stranding and bowel wall thickening was present, in keeping with inflammatory changes. No evidence of bowel obstruction or ischemia was seen. Thus, diagnosis of colonic lipoma with colocolic intussusception was made.

Subsequent colonoscopy performed confirmed a 3.0 cm × 3.0 cm lobular mass in the ascending colon near the caecum [Figure 4], in the expected position of the aforementioned lipoma. The patient underwent endoscopic removal of the lesion without any complication. Final histopathology confirmed a submucosal lipoma. The patient had an uneventful recovery.

DISCUSSION

Lipoma of the gastrointestinal tract is a rare, benign, nonepithelial tumor of unknown etiology. Colon is the most common site of occurrence, with an overall reported incidence in the literature ranging between 0.2% and 4.4%.^[1] Colonic lipoma is one of the most common benign tumors of the

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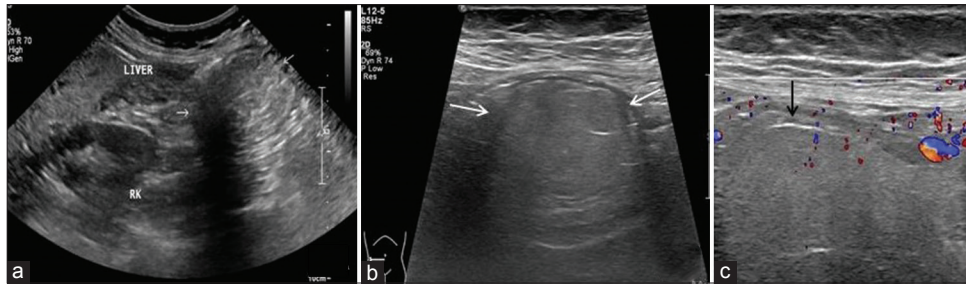


Figure 1: (a) An echogenic mass was found in the right mid-abdomen (white arrow). (b) High-resolution linear probe image, the mass appeared to be an intraluminal lesion (between white arrows). (c) minimal internal vascularity or Doppler interrogation (blue arrow)

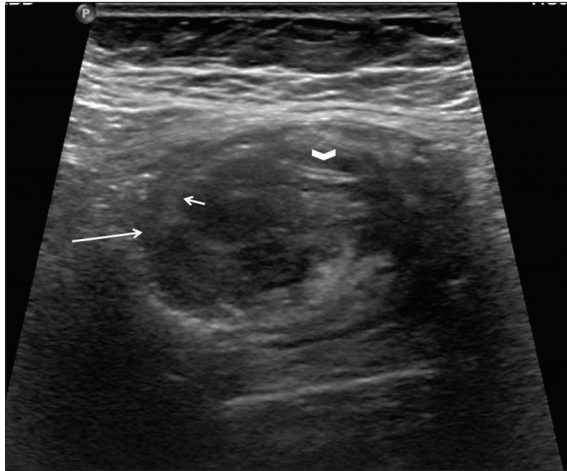


Figure 2: The right mid-abdominal mass is associated concentric layers of alternate hypoechoic (long arrow) and hyperechoic (short arrow), with a stalk (arrowhead) in keeping with a superimposed colocolic intussusception

colon, after adenomatous and hyperplastic polyps.^[2] It is most prevalent in the cecum followed by the ascending colon, more common in women than men and usually diagnosed in the sixth decade.^[3] Almost 90% of lipomas are submucosal in origin, with the remainder being subserosal or intramucosal.^[3] Majority are solitary; however, multiple lesions may be present in rare polyposis syndromes, such as colonic lipomatosis.^[4]

Most patients with colonic lipomas are asymptomatic, with only 6% noted to be symptomatic in a study conducted by Castro and Stearns in Mayo clinic.^[5] Lipomas larger than 3–4 cm are more commonly known to cause symptoms.^[6] Crocetti *et al.* reported abdominal pain (51%) as the most common symptom at presentation; 46% presented with rectal bleeding and 29% of the patients experienced a change in bowel habits with abdominal pain.^[6] Acute presentations such as gastrointestinal bleeding, volvulus, or obstruction are rare^[5] as are weight loss and spontaneous expulsion of the lipoma.^[6]

US is the first imaging modality performed by an experienced and skillful operator.^[7] A well-defined hyperechoic solid mass with or without minimal vascularity is seen within the bowel loop, indicated by alternating thin stripes of hypo- and hyper-echogenicity.^[8] This case highlights the importance of careful US evaluation of the region of interest in a symptomatic

patient. Lipomas may be overlooked if US is performed too fast or mistaken for other pathology such as fecal material. Factors such as small lesion size, large patient body habitus, and the presence of bowel gas may limit adequate evaluation. In patients in whom an intraluminal lesion is detected, further evaluation with CT or colonoscopy is required.

CT is a robust imaging modality for the detection of lipoma.^[8] On CT, lipomas are seen as well-defined, hypodense lesions with Hounsfield unit ranging from – 80 to – 120 HU.^[9] It is also useful for the assessment of complications that require acute surgical intervention, such as obstruction and intussusception.

Magnetic resonance imaging is useful in detecting lipoma by utilization of fat saturation techniques.^[10] However, due to limitations in spatial resolution, evaluation of smaller lipomas may be difficult.

During colonoscopy, a typical lipoma can be seen as a well-defined, smooth yellow polyp.^[4] Some of the endoscopic signs that may favor lipoma include the “tent sign” (overlying mucosa can be grasped with a biopsy forceps), “naked fat sign” (fat extrudes postbiopsy), and “cushion sign,” where the lipoma can be indented by the biopsy forceps.^[11] Endoscopic ultrasonography at the time of colonoscopy may show the lesion as a hyperechoic mass with well-defined borders.^[4]

When a hyperechoic intraluminal lesion is seen in the ascending colon, lipoma should be considered. If present near the cecum, it may be confused with lipomatosis of the ileocecal valve, which is a more common entity than lipoma.^[9] On US, the distinction between these two entities is difficult. On CT, lipomatosis of the ileocecal valve is seen as a symmetric enlargement of the valve rather than an asymmetric mass. Often, fecal material can mimic the hyperechogenicity of lipoma. Other differentials to consider also include colonic polyps and adenocarcinoma, especially when the lipoma is small and its characteristic hyperechogenicity is difficult to appreciate on US. Colonic polyps may be seen as a well-defined, solid, intramural hypoechoic lesion with homogeneous internal vascularity.^[12] Differentiating malignancy from a benign polyp is difficult, with features such as loss of normal bowel wall signature, wall thickening, and heterogeneous increased vascularity favoring a malignant etiology.^[12] There may also be associated stricture or infiltration of the surrounding fat as well as lymphadenopathy and distant metastasis in more

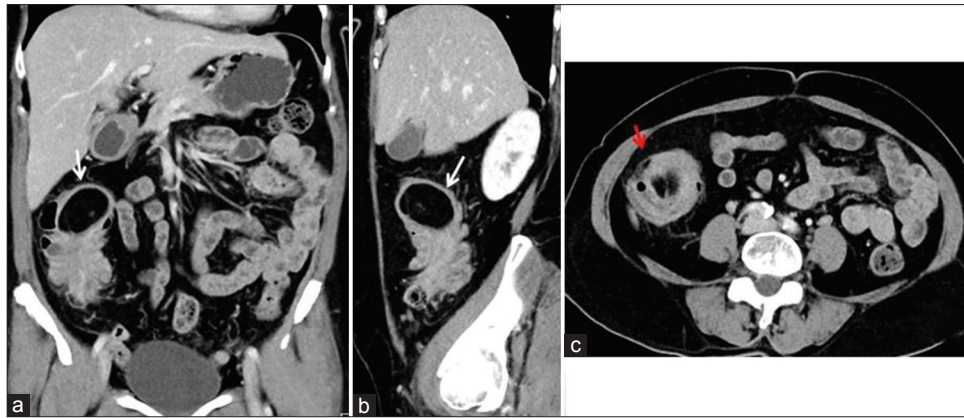


Figure 3: Contrast-enhanced coronal (a) and sagittal (b) computed tomography images show a well-defined hypodense mass distending the lumen of the ascending colon near the hepatic flexure (arrows). (c) Superimposed colocolic intussusception is better appreciated on axial computed tomography image (red arrow)

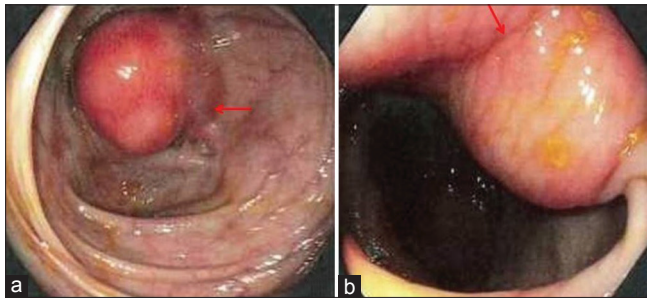


Figure 4: Images obtained during colonoscopy (a and b): an intraluminal well-defined lesion which is submucosal in location (red arrow)

advanced disease. Gastrointestinal stromal tumors or colonic schwannoma are rare colonic tumors and have sonographic appearance similar to that of a polyp^[13] and are often mistaken to represent common adenomatous polyps or malignancy.

Size of the lipoma is an important factor to consider during treatment. Lipomas <2 cm can be safely removed endoscopically.^[14] Some authors, such as Katsinelos *et al.*, believe that the size of the stalk is more important than the actual size of the lipoma, with broad-based or sessile lipomas not being considered suitable for endoscopic removal.^[4] Surgery remains the main treatment of choice for the removal of lipomas larger than 2 cm; other indications for surgery include unsuccessful endoscopic removal and the presence of acute complications, such as bowel obstruction or bleeding.^[6] Malignant lesions should be surgically removed, regardless of size.

No known recurrence has been reported with both complete surgical and endoscopic resection of lipoma.^[3]

CONCLUSION

Lipoma is a rare, benign cause of a colonic mass, which may be either asymptomatic or present with a diversity of symptoms. Adequate detection and evaluation of lipomas is possible with US when performed by experienced personnel. Our case highlights the importance of adequately reviewing

the region of interest during a routine US examination. When colonic lipoma is suspected, the findings can be confirmed on CT and/or colonoscopy with a view for resection either endoscopically or surgically.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Vecchio R, Ferrara M, Mosca F, Ignoto A, Latteri F. Lipomas of the large bowel. *Eur J Surg* 1996;162:915-9.
- Taylor AJ, Stewart ET, Dodds WJ. Gastrointestinal lipomas: A radiologic and pathologic review. *AJR Am J Roentgenol* 1990;155:1205-10.
- Nallamotheu G, Adler DG. Large colonic lipomas. *Gastroenterol Hepatol (N Y)* 2011;7:490-2.
- Katsinelos P, Chatzimavroudis G, Zavos C, Pilpilidis I, Lazaraki G, Papaziogas B, *et al.* Cecal lipoma with pseudomalignant features: A case report and review of the literature. *World J Gastroenterol* 2007;13:2510-3.
- Castro EB, Stearns MW. Lipoma of the large intestine: A review of 45 cases. *Dis Colon Rectum* 1972;15:441-4.
- Crocetti D, Sapienza P, Sterpetti AV, Paliotta A, DE Gori A, Pedullà G, *et al.* Surgery for symptomatic colon lipoma: A systematic review of the literature. *Anticancer Res* 2014;34:6271-6.
- Wulff C, Jespersen N. Colo-colonic intussusception caused by lipoma. Case reports. *Acta Radiol* 1995;36:478-80.
- Karaosmanoglu D, Temizoz O, Karcaaltincaba M, Akata D. Sonographic findings of colonic lipoma causing intussusception. *J Ultrasound Med* 2007;26:1621-3.
- Thompson WM. Imaging and findings of lipomas of the gastrointestinal tract. *AJR Am J Roentgenol* 2005;184:1163-71.
- Liessi G, Pavanello M, Cesari S, Dell'Antonio C, Avventi P. Large lipomas of the colon: CT and MR findings in three symptomatic cases.

- Abdom Imaging 1996;21:150-2.
11. Ghidirim G, Mishin I, Gutsu E, Gagauz I, Danch A, Russu S. Giant submucosal lipoma of the cecum: Report of a case and review of literature. Rom J Gastroenterol 2005;14:393-6.
 12. Kuzmich S, Harvey CJ, Kuzmich T, Tan KL. Ultrasound detection of colonic polyps: Perspective. Br J Radiol 2012;85:e1155-64.
 13. Sugimura H, Tamura S, Yamada H, Kusumoto S, Watanabe K, Hayashi T, *et al.* Benign nerve sheath tumor of the sigmoid colon. Clin Imaging 1993;17:64-6.
 14. Casiraghi T, Masetto A, Beltramo M, Girlando M, Di Bella C. Intestinal obstruction caused by ileocolic and colocolic intussusception in an adult patient with cecal lipoma. Case Rep Surg 2016;2016:3519606.