CASE REPORT

Lipomatosis of the terminal ileum and ileocaecal valve: multidetector CT findings

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SUMMARY

Intestinal lipomatosis, also known as lipohyperplasia, is a rare disease. Diffuse infiltration of fatty tissue mainly in the submucosal layer is characteristic. It is usually asymptomatic and found incidentally. We report a case of lipomatosis in the terminal ileum and ileocaecal valve. Multidetector CT with contrast enhancement showed fatty infiltration of the terminal ileum and ileocaecal valve.

BACKGROUND

Lipomatosis of the gastrointestinal tract is a rare condition in a small number of cases. The term lipomatosis describes focal proliferation of normal fat in soft tissue such as the mediastinum, kidneys, pelvis or intestine. Intestinal lipomatosis is the infiltration of submucosa by mature fat tissue without tumour formation. We were able to obtain higher quality images with the development of radiological imaging technologies. Pathological conditions can be diagnosed and learnt better with coronal and sagittal reformatted images of multidetector CT (MDCT), a product of this technology. Here, we report lipomatosis of the terminal ileum and ileocaecal valve diagnosed with MDCT.

CASE PRESENTATION

A 70-year-old woman presented to the general surgery room with abdominal pain. The clinical examination was unremarkable. Laboratory blood analysis revealed a normal blood profile. Colonoscopy was normal in suboptimal conditions because of endoluminal gaita. Hepatosteatorosis, gallbladder stones and bilateral renal cysts were detected on ultrasound examination. Abdominal CT examination was performed with a 64-row CT unit (Aquilion 64, Toshiba Medical Systems, Tokyo, Japan). It revealed intramural fatty infiltration of the terminal ileum and ileocaecal valve (figure 1A,B). The density of the lesions was between -70 and -90 Hounsfield units (HUs). Luminal narrowing at these sites was the secondary finding, but a contrast passage was present. A few numbers of millimetric diverticulae were also present in the descending and sigmoid colon.

DIFFERENTIAL DIAGNOSIS

Intestinal lipomatosis is shown as well-defined, homogeneous, intramural hypodense areas with attenuation between -80 and -120 HU.^{1 2} It can be differentiated from true lipoma, which appears as an asymmetric mass, whereas lipomatosis manifests as a symmetric enlargement.

TREATMENT

No treatment is required since it is usually asymptomatic. When it reaches a larger size and obstruction develops, surgical procedures may be considered. Derotation is performed in the presence of intussusception.

OUTCOME AND FOLLOW-UP

A majority of cases are asymptomatic. Symptomatic cases are usually secondary to large lipomatosis areas. Abdominal pain, constipation, diarrhoea and bleeding are the common manifestations.

Figure 1 Intravenous contrast-enhanced axial (A) and coronal oblique reformatted (B) multidetector CT scans showing diffuse intramural fatty infiltration in the terminal ileum and ileocaecal valve (arrows). Note the parapelvic cysts in the left kidney (B).

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DISCUSSION

Abnormal fatty tissue deposits in the intestine can be seen in the forms of single or multiple lipomas or diffuse adipose tissue infiltration of the submucosa without tumour formation. The latter one is called lipomatosis.³ Lack of encapsulation differentiates it from lipomas.² Fatty tissue proliferation and deposition are usually limited to the submucosal layer but may extend to the serosa and mesenteric fat. The cause of fat deposition is not known.³

Intestinal lipomatosis shows no sex predominance, and it occurs usually after the fourth decade of life.^{1 4 5} Colon is the most common site (65–75%) and the ileum is the second most common site in terms of lipomas.² But there is no predilection site for lipomatosis in the literature.

The majority of cases are asymptomatic. When intestinal lipomatosis reaches a larger size then the symptoms usually start.⁶ The most common manifestations are non-specific abdominal pain, constipation, diarrhoea and bleeding.^{4 6 7} Abdominal pain was the only symptom in our patient and there was no gastro-intestinal bleeding. Obstruction, intussusceptions and massive haemorrhage are rare occasions.⁶

Ileocaecal areas may be affected by many pathological conditions such as benign and malign tumours, inflammatory processes (appendicitis, diverticulitis and Crohn's disease) and infectious diseases. Hence, differential diagnosis is important in lesions in this area. Best imaging modality for evaluating the ileocaecal area is considered as an MDCT.⁸ Intestinal lipomatosis is shown as well-defined, homogeneous, intramural hypodense areas with attenuation between –80 and –120 HU.^{1 2} It can be differentiated from true lipoma which appears as an asymmetric mass, whereas lipomatosis manifests as a symmetric enlargement.^{2 8} Chronic inflammatory bowel diseases (Crohn's disease and ulcerative colitis) may cause a similar appearance called a 'fat halo sign' in which fatty infiltration of the submucosa is present.⁹ This sign is mostly seen in patients with a longer disease duration.¹⁰ We need to keep in mind that Crohn's disease has major findings such as intestinal wall thickening, mural hyperenhancement and increased attenuation of mesenteric fat in active disease. Fibrotic strictures, fistule and abscess can develop in the chronic phase.¹¹ Our patient's physical and laboratory findings were not compatible with Crohn's disease. Thumb-printing of fluid-containing bowels is seen in coronal MRI. The same sign can also be seen in intestinal ischaemia, but intestinal wall thickness is normal in lipomatosis.¹ Intestinal wall thickening is the most common finding in acute bowel ischaemia. When transmural ischaemia occurs, wall thickening may not be detected secondary to nerve and muscle damage of bowel wall.¹²

No treatment is required since it is usually asymptomatic.⁷ When it reaches a larger size and obstruction develops, surgical

procedures may be considered. Derotation is performed in the presence of intussusception.¹

Larger areas with thinner sections can be examined with MDCT. Coronal and sagittal reformatted images increase the anatomic orientation of radiologists and this can make diagnosis easier. MDCT is the preferred diagnostic method for a rare, benign condition, 'intestinal lipomatosis', as it can differentiate fat tissue from other tissues.

Learning points

- It can be described as diffuse adipose tissue infiltration of the submucosa without tumour formation. Lack of encapsulation differentiates it from lipomas.
- Colon is the most common site (65–75%).
- A majority of cases are asymptomatic. The most common manifestations are non-specific abdominal pain, constipation, diarrhoea and bleeding.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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