Giant mesenteric lipoma: An uncommon cause of volvulus in a child

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Patient: 14 years, male

Clinical History:

Mesenteric lipoma is very uncommon in children. It is a benign slow growing mass that rarely causes digestive symptoms. The authors report an exceptional complication of a mesenteric lipoma in a child which is a midgut volvulus and emphasise the role of cross sectional imaging modalities in diagnosis.

Imaging Findings:

A 14 year old boy was transferred to our department from another medical institution with a 10 days history of abdominal pain and vomiting. He has had recurrent episodes of abdominal pain during the last six months. The patient had already undergone a barium enema the day before he was addressed to our department. On admission, physical examination revealed an abdominal distension and tenderness, but there was no mass on palpation. Hernial orifices were normal.

An ultrasonography and Doppler-US was performed and showed dilated intestinal loops with a “whirlpool sign” suggestive of volvulus (Fig 1-2). It has also demonstrated the presence of an echoic and homogeneous mass in the lower abdomen and right iliac fossa measuring approximately 12x10 cm.

A CT scan was performed and showed a large fatty, homogeneous and well encapsulated mass of the lower abdomen up to the umbilicus responsible of a volvulus of the small bowel (Fig 3-4). There was also a small amount of ascites and diffuse mesenteric oedema .There was no sign of malrotation.

Laparotomy revealed a large fatty mesenteric mass measuring 12x10 cm including a terminal ileal loop and causing volvulus and intermittent obstruction. The mass was entirely excised with the ileum segment, followed by an end to end anastomosis. Histopathology of the mass was consistent with a lipoma. Post operative follow up was unremarkable.

Discussion:

Mesenteric lipoma is unusual in childhood. About 50 paediatric cases have been reported in the literature [1]. It is most often found in adults between 40-60 years and rarely occurs in the first two decades of life [2]. Lipomas form a slow-growing mass; they rarely cause gastro-intestinal symptoms such as pain and obstruction. Lipomas of the mesentery are responsible of about 5% of small bowel volvulus [3] across all age group according to Colovic and all [3-4].

Volvulus results from abnormal twisting of a loop of the bowel around the axis of its own mesentery producing a mechanical obstruction. The clinical presentation may be an acute abdomen or a chronic intermittent abdominal pain and vomiting.

Cross-sectional imaging techniques such as US and CT may be very useful and show characteristic signs like the
“whirl” pattern corresponding to the whirlpool arrangement of the mesentery and the mesenteric vessels around the site of torsion. CT can also show other signs like a radial disposition of the dilated intestinal loops, the presence of collapsed loops, the segmental congestion of the mesenteric vessels and signs of bowel infarction [5].

Imaging evaluation of mesenteric lipoma is best carried out with US and CT by showing a well capsulated unilocular and homogeneous mass hyperechoic on US and with fat density on CT.

In the differential diagnosis of mesenteric lipoma, lipoblastoma, liposarcoma, lymphangioma and desmoids can be considered. Lipoblastoma is a benign tumour of immature fat cells occurring exclusively in childhood often before the age of 3 years. However, its heterogeneous and septated appearance on US and CT can help to differentiate it from lipoma [1-2]. Liposarcoma is distinguished by its heterogeneous fat and soft tissue matrix. It is also very rare in childhood. Lymphangioma can be easily recognised by its multiseaptations and transonic appearance on US. Desmoids have cystic and solid components on US and CT.

Volvulus usually occurs in neonates and is very often caused by intestinal malrotation. In older children and adults, symptoms may be intermittent and the diagnosis rarely suspected. Imaging techniques can play in such cases an important role not only in confirming the volvulus, but also in finding its cause and permitting an adequate treatment. **Differential Diagnosis List:** Mesenteric lipoma causing a small bowell volvulus

**Final Diagnosis:** Mesenteric lipoma causing a small bowell volvulus

**References:**


Description: Ultrasonography coupled to doppler: Whirlpool sign

Origin:
Description: Abdominal computed tomography after intravenous administration of an iodine contrast media showing a well defined and homogeneous fatty mass in the right iliac fossa and the lower abdomen. Origin:
Figure 3

Description: Ultrasonography-doppler: Twisting of the ileal loop and Whirlpool sign. Origin:
Description: Axial abdominal computed tomography after intravenous administration of a iodine contrast agent showing distended intestinal loops and whirlpool sign in the right abdomen suggestive of a volvulus Origin: