Case	(380) Intestinal obstruction secondary to intestinal malrotation: diagnostic keys on ct
Authors	W.a. Ocampo Toro, J.m. Sánchez Bermejo, P. Concejo Iglesias, D.f. Blanco García, J.j. Jover Sánchez, M.a. Hoyas García.
Centre	Hospital Universitario Severo Ochoa.

CASE PRESENTATION

A 43-year-old male, with history of recurrent abdominal pain, went to the emergency room for generalized abdominal pain, abdominal distension and vomiting of 24 hours of evolution. Intestinal obstruction was suspected, for this Simple abdominal X-ray, abdominal contrast-enhanced CT (CECT) and opaque enema CT were performed.

The simple radiography showed hydro-aerial levels while CECT depicted loops of jejunum and proximal ileum dilated without showing obstructive organic cause. CECT also showed ascending colon in the left hemiabdomen, superior mesenteric artery to the left of the homonymous vein and Treitz angle to the right of the medium line.

These findings were compatible with intestinal obstruction probably secondary to the presence of Ladd bands in the context of Intestinal Malrotation (IM) type III (incomplete rotation). It was decided to perform urgent surgery that confirmed the radiological findings.

DISCUSSION

MI is a congenital disorder of the midgut that consists of an abnormal rotation of it during fetal development which also leads to an absence of fixation of the intestinal loops to the retroperitoneum and the development of ineffective compensatory fixation systems (Ladd bands).

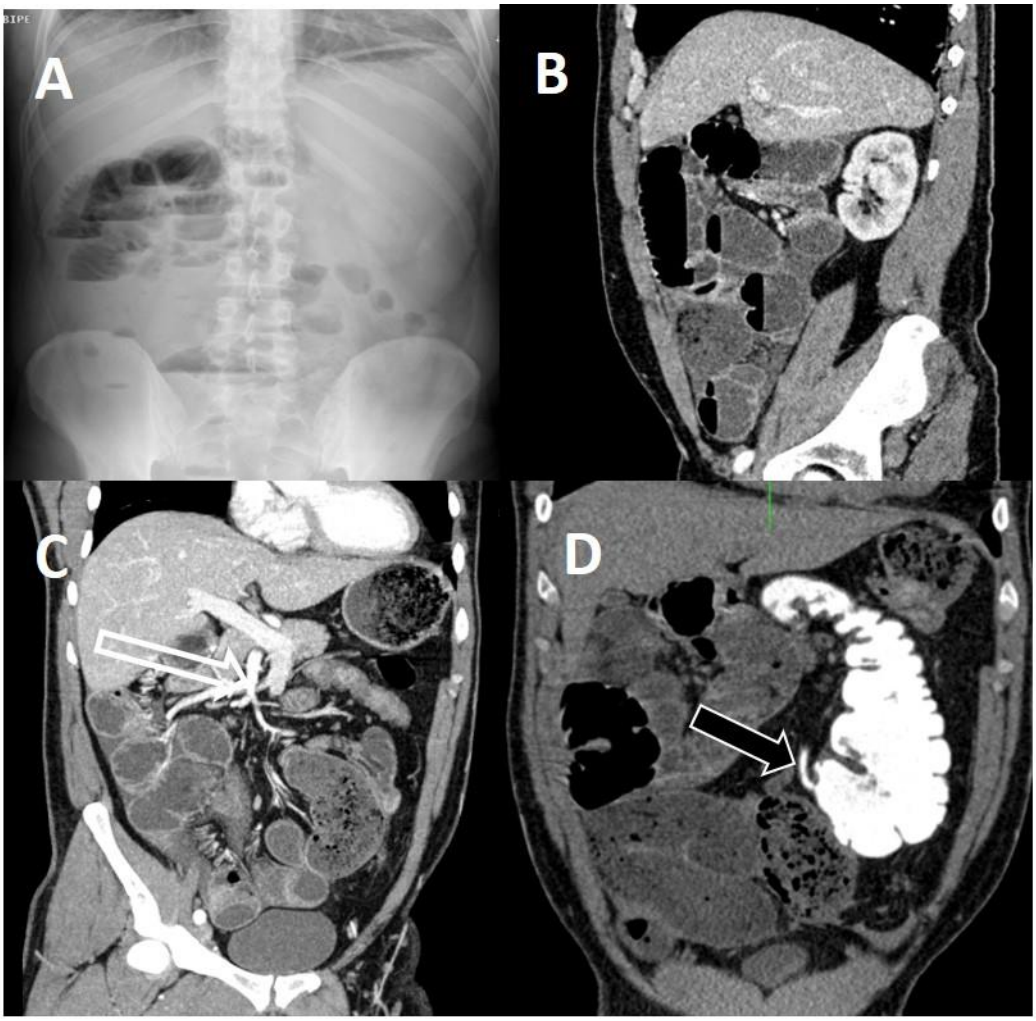
Most cases are diagnosed during the first month of life, although its real incidence is difficult to estimate due to some cases are asymptomatic or present with acute abdominal symptoms in adulthood. Acute abdominal symptoms are due to midgut volvulus, internal hernias or intestinal obstruction secondary to MI, as in our case.

These patients often require urgent abdominal surgery as treatment. The best image technique in these cases is abdominal CECT because of its speed, availability and reliability in the diagnosis. The opaque enema CT can be useful to better visualization of the colon if it is collapsed, as in our case. Small bowel follow through and ultrasound can also be useful for diagnosis, especially in children.

The key signs for the diagnosis of MI are the visualization of the Treitz angle to the right of the spinal column, the superior mesenteric artery to the right of the homonymous vein, ascending colon in the left hemiabdomen and retroduodenal location of the transverse colon.

CONCLUSION

MI can occur in adulthood with acute abdominal symptoms resulting from some of its complications: obstruction, midgut volvulus or internal hernia which in many cases require urgent surgery. CECT is the main diagnostic method of MI and its complications.



Simple abdominal X-ray (A) and abdominopelvic CECT (B) show intestinal obstruction secondary to intestinal malrotation : Simple abdominal X-ray shows dilated small bowel loops with hydro-aerial levels in the right hypochondrium. This finding is also seen in CECT on sagittal reconstruction (B). Opaque enema CT on coronal reconstruction shows the superior mesenteric artery to the right of the homonymous vein (hollow arrow in C) and ascending colon to the left of the midline (D). The arrow in D points to the cecal appendix.

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