Case	(517) Closed loop small bowel obstruction. when it is not the first suspicion.
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CASE PRESENTATION

A 86-year-old man consults the Emergency Department with epigastric and umbilical pain and vomits. He had not alteration in bowel habit neither fever. A week before he was cholecystectomized because of an acute cholecystitis.

Under the suspicion of postsurgical complication, a contrast enhanced abdominal CT was performed that showed a subhepatic collection with anfractuous borders, a thick wall and an airfluid level in the surgical bed, suggestive of abscess. In a second reading of the CT, a closed loop small bowell obstruction (CL-SBO) with signs of ischemia was found. It implied the middle ileum, with 2 caliber changes in hypogastrium.

The closed loop had a "C" shaped, it was not dilated with bowel wall low enhancement. There was mesenteric edema and ascites. Jejunum was no dilated and distally the ileum was collapsed.

DISCUSSION

A CL-SBO implies a segment of bowel obstructed at two points along its course that are adjacent to each other.

The obstructed segment, isolated from the remainder of the gastrointestinal tract, continues to secrete fluid and it therefore becomes dilated, which can impair venous return resulting in ischemia. The mayor cause is adhesions, but also mesenteric twist or internal hernias. Sometimes, there are no suspicious clinical findings of obstruction and the diagnosis is because of imaging CT. The CT diagnosis of CL-SBO is complex and CT findings depend in part on the orientation of the loop relative to the plane of imaging. We must look for these CT findings:

- C- shaped bowel loop, dilated or not.

- Double beak sign: abrupt change in bowel caliber showing the exact level of the obstruction.

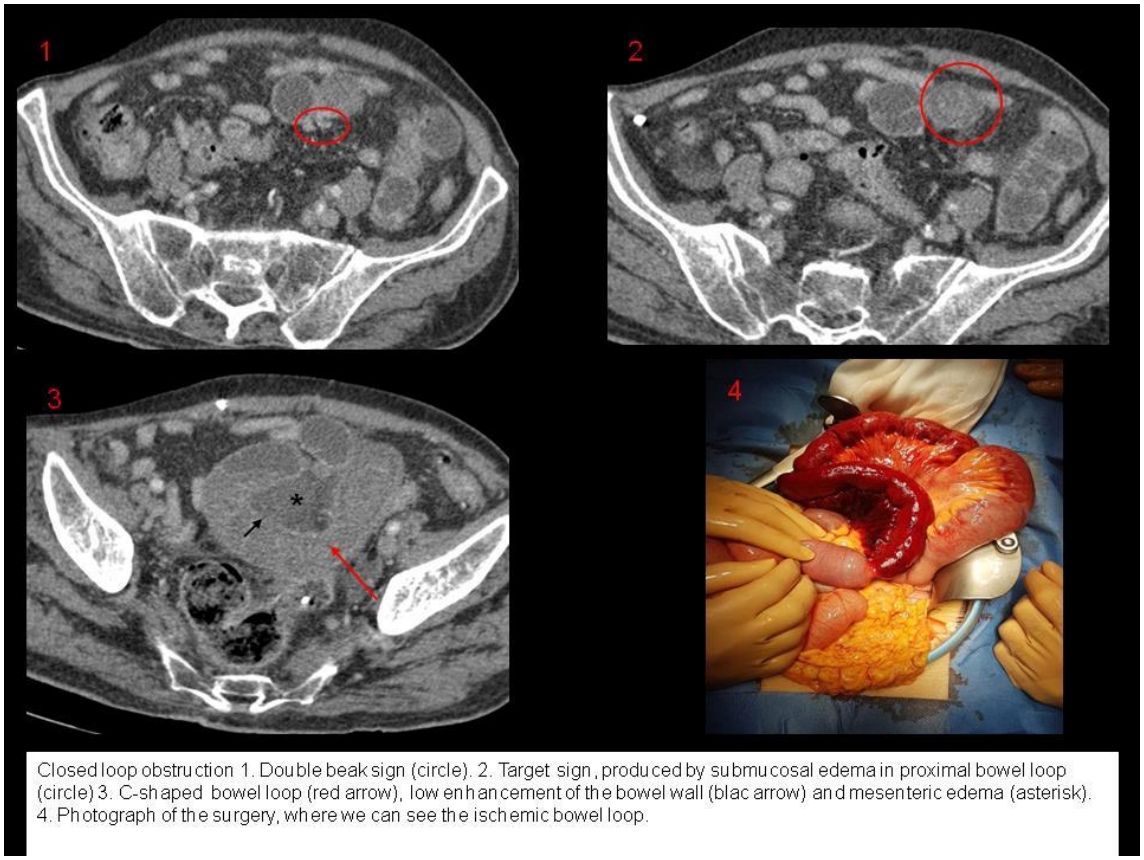
- Target sign: submucosal edema or inflammatory mural changes associated with obstruction.

- Wirl sign caused by the rotation of the afferent and efferent loop around a fixed point, with a twist of the mesentery and stretched mesenteric vessels.

- Signs of ischemia: mesenteric edema and ascites. Bowel wall thickening and abnormal bowel wall enhancement. Sometimes there can be submucosal hemorrhage, better seen in an unenhanced CT, and pneumatosis in late stages.

CONCLUSION

A CL-SBO is a surgical emergency because of the high risk of strangulation and bowel infarction. Radiologist must know the CT findings of CL-SBO and performance triplanar reconstruction. It is also important to remark that we can find several pathologies in the same patient, so we must not end the search at the first finding.



Closed loop obstruction 1. Double beak sign (circle). 2. Target sign, produced by submucosal edema in proximal bowel loop (circle) 3. C-shaped bowel loop (red arrow), low enhancement of the bowel wall (blac arrow) and mesenteric edema (asterisk). 4. Photograph of the surgery, where we can see the ischemic bowel loop.

BIBLIOGRAPHY

- Paulson EK, Thompson, WM. Review of Small-Bowel Obstruction: The Diagnosis and When to Worry. Radiology. 2015 May; 275 (2):332-42.