Small bowel obstruction due to obturator hernia: CT appearance

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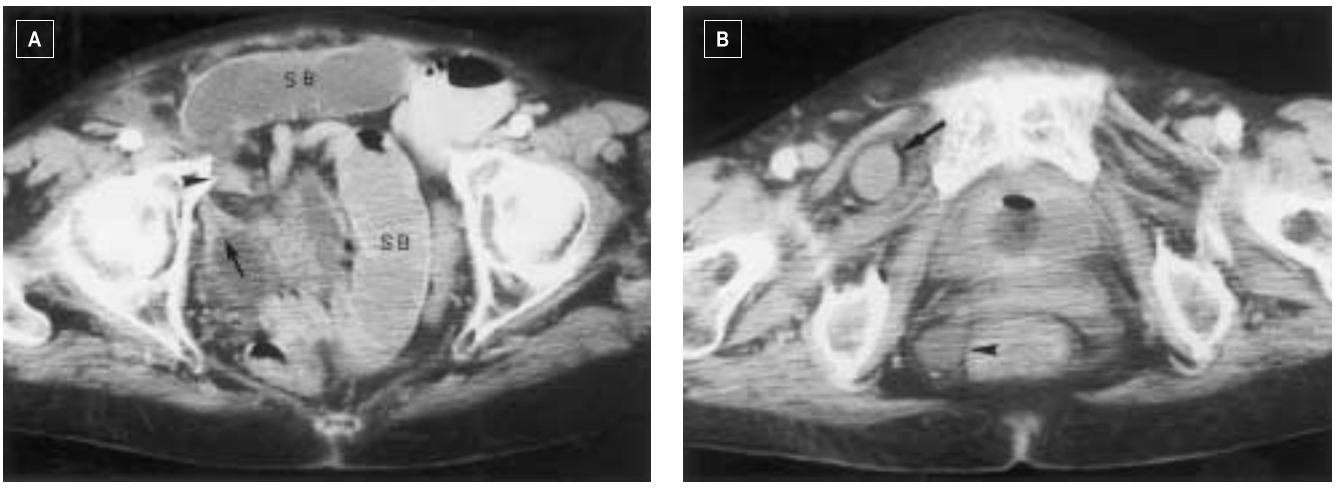
An 85 year old woman presented with diffuse abdominal pain, nausea and bilious vomiting appearing on the morning of admission. She also reported constipation of one week duration. Her past medical history included ischemic heart disease, hypertension, chronic atrial fibrilation and hysterectomy. Physical examination revealed a soft, distended, and diffusely tender abdomen. Laboratory studies were unremarkable. Plain abdominal radiographs demonstrated multiple distended small bowel loops with air-fluid levels compatible with small bowel obstruction. Contrast-enhanced computerized tomography of the abdomen disclosed dilated small bowel loops down to the right pelvis where a transition zone of a collapsed loop was noted to be caught between the right pectineus and obturator externus muscles [Figure].

A small amount of fluid was also seen. A presumptive diagnosis of incarcerated obturator hernia was made. An urgent explorative laparotomy revealed a herniated necrotic loop of small bowel in the right obturator foramen with proximal small bowel distension and a large amount of serotic fluid. The patient underwent small bowel resection with end-to-end anastomosis and OH mesh repair. The postoperative period was uneventful.

OH is a relatively rare pelvic hernia with right-sided predilection, occurring mainly in thin, elderly multiparous women. The peritoneal sac and its contents herniate through the obturator canal along the obturator vessels and nerves, and lie between the obturator externus and pectineus muscles; it may be palpable on rectal or vaginal examination. In most cases the sac contains small bowel, but it may also contain appendix, colon, omentum, bladder, uterus, or adnexal tissue. The diagnosis of OH is often difficult to establish due to obscure symptom and signs [1].

Small bowel obstruction due to incarcerated hernia is rare and a preoperative diagnosis can be easily overlooked due to the rarity of this entity, the location of the entrapped loop and the

OH = obturator hernia



[A] Contrast-enhanced CT of the pelvis shows dilated small bowel loops (SB) with a transition zone of a collapsed loop pointing towards the right anterior acetabular lip (arrow), entering the obturator canal. The distal segment of the entrapped loop is seen exiting it (arrowhead).
[B] A scan 3 cm caudal to [A] shows a fluid filled bowel loop incarcerated in the right obturator canal, between the pectineus muscle anteriorally and obturator externus muscle posteriorally (arrow). A small amount of pelvic fluid is seen (arrowhead).

non-specific presentation. A delay in diagnosis and surgical intervention is associated with high morbidity and mortality [1,2]. Nowadays, CT plays an imporant role in the evaluation and management of patients with small bowel obstruction, by establishing the correct diagnosis, defining a possible etiology, and by eliciting signs differentiating simple from strangulated obstruction requiring surgical intervention [3,4]. CT diagnosis of a strangulated OH is highly accurate [2,5] and may also allow altering the surgical plan to a preperitoneal approach, thus avoiding the risk of future adhesions. The clinical presentation of small bowel obstruction without an obvious etiology in our patient justified an urgent abdominal CT, which disclosed not only the etiology but also free fluid suggestive of ischemia, which was confirmed surgically.

As CT is often performed for various acute abdominal conditions, the radiologist should be aware of this rare entity of strangulated obturator hernia, which may be first diagnosed on CT.

References

1. Bergstein JM, Condon RE. Obturator hernia: current diagnosis and treatment. *Surgery* 1996;119:133–6.
2. Ijiri R, Kanamaru H, Yokoyama H, Shirakawa M, Hashimoto H, Yoshino G. Obturator hernia: the usefulness of computed tomography in diagnosis. *Surgery* 1996;119:137–40.
3. Burkill GJ, Bell JR, Healy JC. The utility of computed tomography in acute small bowel obstruction. *Clin Radiol* 2001; 56:350–9.
4. Boudiaf M, Soyer P, Terem C, Pelage JP, Maissiat E, Rymer R. CT evaluation of small bowel obstruction. *Radiographics* 2001;21:613–24.
5. Nishina M, Fujii C, Ogino R, Kabayashi R, Kohama A. Preoperative diagnosis of obturator hernia by computed tomography in six patients. *J Emerg Med* 2001; 20:277–80.

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