

## Obturator Hernia—A Rare Cause of Intestinal Obstruction

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Obturator hernia followed by incarceration has been described as the most lethal of all hernias.<sup>1</sup> The reasons given for the high mortality resulting from this internal herniation are the patients' advanced age (average age is 67 years), their poor general health, the misinterpretation of the diagnosis, and the delay in surgical treatment.

An obturator hernia seems to be a rare event. Before 1978 only 550 cases of obturator herniation were reported in the world literature.<sup>1</sup> At Los Angeles County General Hospital, there were 12 cases of obturator hernia in 3,000 patients with mechanical bowel obstruction over the past 22 years.<sup>2</sup> The first reported case of an obturator hernia was described by Pierre Roland Arnaud de Ronsil in 1724. Symptoms usually are of an acute intestinal obstruction. If present, medial thigh pain relieved by knee flexion (Howship-Romberg sign) also is characteristic of an obturator hernia.

Because of the advanced age of patients with obturator hernia and the presentation as an acute bowel obstruction, the family physician will probably be responsible for the care of these patients. Since the mortality rate, in part, is dependent on the length of time prior to diagnosis, and the surgical repair is simple reduction, a high index of suspicion and prompt diagnosis are important for patient survival.

Canby Community Hospital (CCH) is a 25-bed hospital in western Minnesota. There are approximately 200 admissions each year for surgery. This communi-

cation reports two cases of obturator hernia seen in CCH during the past seven years.

### CASE REPORTS

#### CASE 1

A 98-year-old woman, who had been institutionalized for several years with decreasing mental functioning, was transferred to CCH on February 28, 1978, with a history of increasing abdominal discomfort and distention of two days' duration. Vital signs were pulse 80 beats per min, respirations 32/min, blood pressure 146/100 mmHg, and temperature 100°F (rectal). Physical examination was significant for markedly distended, but soft, abdomen. Bowel sounds were hyperactive, and there was some tenderness to deep palpation in the lower abdomen and pelvis. Results of genital and rectal examinations were unremarkable, as were the rest of the examination findings. Laboratory results were hemoglobin 14.4 g/dL, white blood count 13,450/ $\mu$ L with a slight shift to the left; electrolytes were initially normal, urine was also normal. Initial flat and upright abdominal and chest roentgenograms demonstrated multiple loops of dilated small bowel with multiple fluid levels. There was no colonic gas present. The patient was admitted with the diagnosis of small bowel obstruction and began intravenous hydration and nasogastric suction. She was observed for six days without any improvement in her condition. Repeat x-ray films demonstrated no resolution of her obstruction. It was then elected to proceed with an exploratory abdominal laparotomy despite her advanced age. Abdominal laparotomy demonstrated an incarcerated left obturator hernia requiring resection of 6 cm of ileum. The obturator foramen was not closed. She tolerated the procedure well, although she developed serous incisional drainage postoperatively. She was transferred back to her nursing home 10 days postoperatively. She died approximately three years later of an unrelated cause.

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## CASE 2

A 92-year-old woman with no previous abdominal surgery was admitted on May 5, 1985, to CCH with a one-day history of severe abdominal pain. Her bowels had moved two days prior to hospitalization, but she was now constipated. At the time of hospitalization she had experienced several episodes of emesis. She also stated that her right leg hurt, but she was not specific as to where. Significantly she stated that she had lost quite a bit of weight recently and had increasing constipation of three months' duration. Vital signs were pulse 60 beats per min, respirations 20 per min, blood pressure 156/76 mmHg, and temperature 99.5 °F (oral). Physical examination revealed a cachectic woman in moderate discomfort. Her abdomen was mildly distended with hyperactive bowel sounds. There were no high-pitched bowel sounds. No tenderness, organomegaly, or rebound tenderness was elicited. The rest of the examination was noncontributory. Laboratory results were hemoglobin 12.0 g/dL, white blood count  $11.9 \times 10^3/\mu\text{L}$  with a normal differential; electrolytes were normal, as was the urinalysis. Flat and upright abdominal and chest roentgenograms demonstrated multiple loops of small bowel with fluid levels present. No colonic gas was seen. The patient was admitted with a diagnosis of bowel obstruction, possibly secondary to carcinoma of the right colon. Intravenous hydration and nasogastric suction were begun. Barium enema demonstrated a normal-appearing colon with reflux into the terminal ileum. At this time the diagnosis of an obstruction secondary to an adhesion, internal hernia, or pelvic carcinoma was suggested. Abdominal and pelvic ultrasonograms were normal except for evidence of small bowel obstruction and incidental cholelithiasis. An exploratory laparotomy was performed on the third hospital day. A right obturator hernia was discovered during surgery and was reduced. A 2-cm area of the distal ileum that was reduced was found to be viable. The defect covering the obturator foramen was closed with two 2-0 chromic stitches. Postoperatively, her bowels began to function; however, she developed aspiration pneumonia, followed by acute renal failure, and died five days postoperatively.

## DISCUSSION

The obturator foramen is formed by the junction of the os pubis and the ischium. It is the largest foramen in the body, and it is covered by the obturator membrane, except for a 2.5- to 3-cm canal. Through this obturator canal course the obturator artery, vein, and nerve. Irritation of the obturator nerve throughout its course in the canal produces medial thigh pain. There

also are extraperitoneal fat and connective tissue present. The loss of this tissue with aging may predispose to herniation through the foramen.

Larrieu and DeMarco in their 1976 series<sup>3</sup> found the average age of the patients with an obturator hernia to be 67 years with the range between 45 and 86 years. This type of hernia is more prevalent in women in a 9:1 ratio. Etiology is considered to be a combination of (1) aging, (2) pelvic muscle relaxation, (3) loss of canal fat pad, (4) multiple pregnancies, and (5) any factor increasing intraabdominal pressure, such as constipation, ascites, chronic cough, urinary obstruction, and pulmonary disease.<sup>4</sup>

The diagnosis of an obturator hernia is based on the signs and symptoms of an acute small bowel obstruction: paroxysmal abdominal pain, bile-stained emesis, abdominal tenderness with rebound, or leukocytosis. The obstruction can be either complete or partial. Also, a present Howship-Romberg sign (about 50 percent of the patients<sup>5</sup>) is almost pathognomonic. Rarely may the mass be palpable by vaginal or rectal examination. Also, gas seen in the obturator canal on x-ray examination is suggestive of an obturator hernia. Approximately 33 percent of all obturator hernias are diagnosed prior to surgical treatment.<sup>5</sup> Other causes of small bowel obstruction in this population include gallstone ileus, small bowel carcinoma, or other, more common, herniations.

Treatment of an obturator hernia consists of surgical reduction, which is probably easiest to do via an abdominal approach. The Cheatle-Henry retropubic approach<sup>6</sup> and the inguinal approach also have been advocated, however.<sup>7</sup> One advantage of an abdominal incision is that it provides the best exposure of the obturator ring. Such an incision also enables the resection of small bowel in case of an incarceration. Because only 33 percent of the cases of obturator hernia are diagnosed prior to surgery, an exploratory laparotomy is probably the most common surgical technique (as in these two cases). The recurrence rate of obturator hernia is approximately 7 percent<sup>5</sup> if the defect is not closed. Many methods have been suggested for closure, ranging from leaving it open to placing stitches across the canal or using a marlex mesh<sup>3</sup> or placing the urinary bladder wall over the defect.<sup>8</sup> All methods seem fairly effective; however, it is difficult to judge the efficacy because of the lack of controlled studies and the high mortality, which varies according to different series from 12 to 70 percent.<sup>5</sup>

With only 550 cases reported in the world literature before 1978, two cases of an obturator hernia occurring in a small community hospital is significant. With just over 200 surgical cases per year, Canby Community Hospital has experienced an extraordinarily high rate of this rare hernia. These cases demonstrate the difficulty in properly diagnosing this condition and the

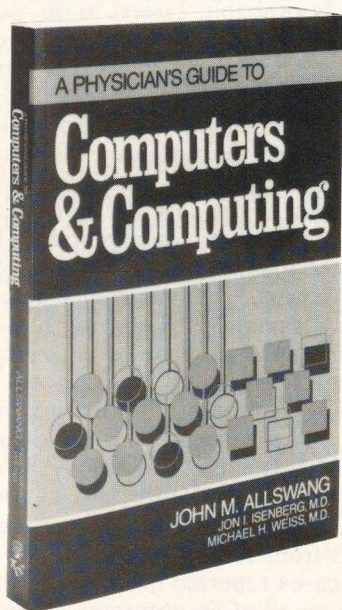
importance of early diagnosis. Because the family physician treats elderly patients with small bowel obstruction, a high index of suspicion is necessary. The combination of an acute small bowel obstruction in an elderly patient with a positive Howship-Romberg sign should suggest an obturator hernia.

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