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CASE REPORT

Sciatic hernia with incarcerated urinary bladder: Laparoscopic transabdominal extraperitoneal repair with a mesh plug

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Abstract An 87-year-old man experiencing abrupt and severe lower abdominal pain was found to have a pulsatile right hip mass. An abdominal computed tomography scan demonstrated that a portion of the redundant urinary bladder was herniating through the right sciatic foramen and into the right gluteus maximus muscle. Laparoscopic transabdominal extraperitoneal repair with a synthetic mesh plug was performed. The patient recovered uneventfully, without recurrence during 3 years of follow-up. The pathogenesis, clinical manifestation, imaging studies, and treatment of sciatic hernia were reviewed.

1. Introduction

Sciatic hernia is a rare hernia that is difficult to diagnose because of its development in the pelvic area through the sciatic foramen. Detection of this type of hernia is challenging for clinicians because of its typical occult position under the larger gluteus muscle that overlays across the back of the pelvis. Symptoms are dependent on the organs that are contained within the hernia, such as bowels, ureter, bladder, ovary, fallopian tube, or colon. Symptoms, including abdominal pain, pelvic pain, sciatic pain, and urinary retention, often accompany various complications, such as bowel obstruction, nerve entrapment, and obstructive uropathy. Sciatic hernia can affect children and adults, but women are at a greater risk because they tend to have wider pelvic bones and sciatic foramen. As women age, the pelvis widens. Multiple pregnancies can also weaken the abdomen and pelvic muscles. Illnesses that affect and weaken the pelvic bones and muscles can also increase the risk of sciatic hernia. Chronic illnesses such as

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intra-abdominal pressure caused by coughing, vomiting, or sneezing can lead to an opening in the abdominal wall to the pelvis, thereby increasing the risk of a sciatic hernia.

2. Case report

An 87-year-old man presented with abrupt, severe lower abdominal pain and a pulsatile right hip mass. The patient had had chronic obstructive pulmonary disease and benign prostate hyperplasia for more than 2 decades. The patient had frequent bursts of vigorous productive coughing associated with his chronic obstructive pulmonary disease. He also experienced poor urinary function with frequency, hesitation, nocturia, and posturination abdominal pain. He denied a history of major surgery or trauma. On the day of hospitalization, he experienced extreme pain over his lower abdomen after a vigorous coughing spell in the morning. The patient stated that this was a new pain for him that persisted with associated nausea. The symptoms increased after urinating. He complained of general malaise and weakness, as well as bladder fullness and urgency to urinate, but could void only small amounts of urine at a time. The patient stated that as he lay in bed in the right decubitus position, he felt a soft lump over his right hip. The mass was oval in shape, and the size of a medium chicken egg. The mass could be pressed into a flat surface by finger compression. On arrival at the emergency department, his body temperature was 36.2°C blood pressure was 156/89 mmHg, heart rate was 105 beats/min, and respiratory rate was 20 breaths/min. Physical examination revealed a soft and flat abdomen, and normoactive bowel sounds in all four quadrants with no tympany. Mild tenderness was present over the suprapubic region without guarding, rigidity, or rebounding pain. No mass was palpated over the abdomen. A soft but tender oval mass was palpated at the right hip just posterosuperior to the right greater trochanter. The mass protruded when the patient coughed or with an increase in the patient's intra-abdominal pressure. The mass retracted slightly into the hip when the patient relaxed his abdomen. The maximal size of the pulsatile mass measured 3.5 cm × 3.5 cm. Blood tests and urine analysis were within normal limits. Plain abdominal film showed no dilated bowel loops and was read as negative. Because of the discrepancy of his clinical presentation, a computed tomography (CT) scan was obtained. The results of the CT scan demonstrated three cystic masses connecting the urinary bladder; one measured 5.7 cm × 6.4 cm at the superior aspect and the other was 5.6 cm × 3.8 cm at the left posterior aspect with internal stones of which the largest measured 1.1 cm. The third mass measured 5.0 cm × 3.1 cm, and was observed at the right posterior aspect herniating through the right sciatic foramen into the anterior aspect of the right gluteus maximus muscle (Fig. 1). A thick double-layer structure of peritoneum was observed around the herniated sac, as compared with a thin single layer at the left side of the urinary bladder. Based on the clinical presentation and CT findings, an incarcerated sciatic hernia was diagnosed and the patient underwent emergency surgery. Under laparoscopy (Fig. 2), a portion of the redundant and flaccid urinary bladder was noted to herniate through a defect at the right

Figure 1 Abdominal computed tomography scan showing a redundant portion of urinary bladder herniated through right sciatic foremen into the right gluteus maximus muscle. (1) Head of femoral bone. (2) Ischial bone. (3) Sac containing the herniated part of the urinary bladder. (4) Right gluteal maximus muscle. (5) Sacral bone. (6) Right greater sciatic foramen. Note the double-layer structure of the invaginated peritoneum. (7) Urinary bladder.

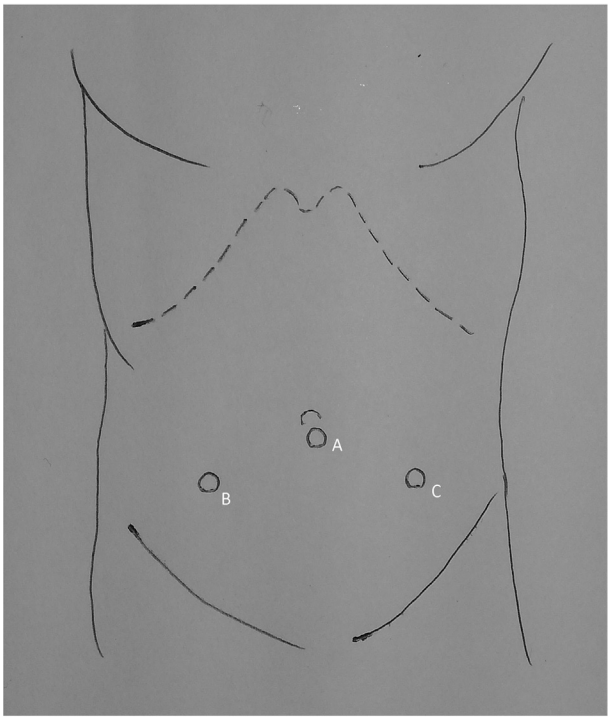

Figure 2 Illustration of the locations of port placements. (A) The umbilical port, 10 mm, for the laparoscope. (B) The right lower abdominal port, 10 mm, for the surgeon's right hand instrument. (C) The left lower abdominal port, 5 mm, for the surgeon's left hand instrument.