

Sciatica Caused by Pseudomyxoma Peritonei

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Many etiologies may cause sciatica, and intra-abdominal masses usually affect the lumbosacral plexus by local invasion or distal metastases. Lumbosacral plexopathy caused by compression of intra-abdominal tumors instead of invasion is rarely seen. A 67-year-old woman had a 3-month history of progressive neurogenic claudication, lumbago and left L5 radiculopathy with foot drop. Nocturia and progressive abdominal distension with voiding dysfunction were also noted. Imaging studies showed a huge pelvic mass with severe compression of the left lumbosacral trunk. There was no direct invasion of the lumbosacral plexus by the pelvic mass noted in the preoperative imaging studies or intraoperative findings. Bilateral ovarian borderline mucinous cystic tumor with pseudomyxoma peritonei (PMP) was diagnosed, and the sciatica was improved dramatically after subsequent abdominal debulking surgery. Although rare, neural compression caused by PMP and intra-abdominal masses needs to be considered in the differential diagnosis of sciatica. [*J Chin Med Assoc* 2009;72(1):39–41]

Key Words: foot drop, lumbosacral plexopathy, pseudomyxoma peritonei, sciatica

Introduction

Sciatica, defined as pain radiating from the back into the buttocks and lower extremities, is a common disorder. It may be caused by inflammatory disease, neoplasm, trauma, degeneration, and other metabolic or circulatory events from the spinal axis to peripheral nerves. The differential diagnosis of sciatica is difficult, and a definitive diagnosis cannot always be established.¹ Pseudomyxoma peritonei (PMP) is a rare intra-abdominal multiloculated neoplasm characterized by accumulation of gelatinous material in the peritoneal cavity and is usually associated with mucinous neoplasms of the appendix or ovary. The symptoms of PMP, as reported by Carter et al² and Lee et al,³ include abdominal mass, abdominal pain, increasing abdominal girth, weight loss, and hernia. Back pain with pyuria has also been reported.⁴ But there has been no report of sciatica induced by intra-abdominal masses with PMP.

Case Report

A 67-year-old woman had neurogenic claudication and chronic low back pain with radiation to her left

foot for 3 months. Other complaints included feeling of progressive abdominal fullness, nocturia, and some difficulty in passing urine (voiding dysfunction). Shooting pain and paresthesia over the lateral aspect of the left leg and left dorsal foot, and weakness of dorsiflexion of the left foot (foot drop) were found. Right lower-limb and upper-limb examinations were normal. Other past history and neurologic examinations were unremarkable. Lumbar spine magnetic resonance imaging (MRI) revealed severe lumbar stenosis with grade I spondylolisthesis L3 on L4. A huge intrapelvic mass with lumbosacral plexus compression was also noted (Figure 1).

After admission to the neurosurgical department, acute onset of severe abdominal distension and acute urine retention developed. Follow-up abdominal computed tomography (CT; Figure 2A) disclosed a huge pelvic mass with bilateral hydronephrosis, and ascites, and it caused severe compression of the left internal iliac vessels and left lumbosacral trunk. The patient had subsequent abdominal surgery. Bilateral ovarian tumors with gelatinous intraperitoneal fluid (about 1,000 mL), omental cake formation, multifocal peritoneal implantation, and peritoneal seeding with intestinal and pelvic organ invasion were noted intraoperatively. However,



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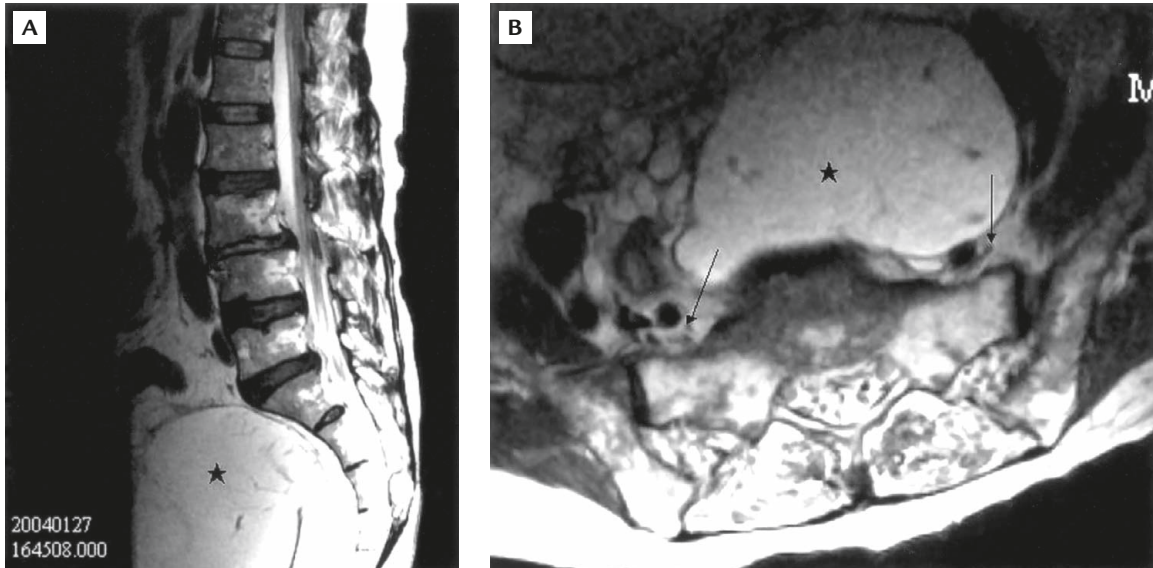


Figure 1. (A) Sagittal T2WI image of the lumbar spine shows multilevel degenerative changes. A huge pelvic mass (★) was also found. (B) Axial T2WI image shows that the pelvic mass (★) is severely compressing the left internal iliac vessels and lumbar sacral trunk (arrow) compared with the right side (arrow).

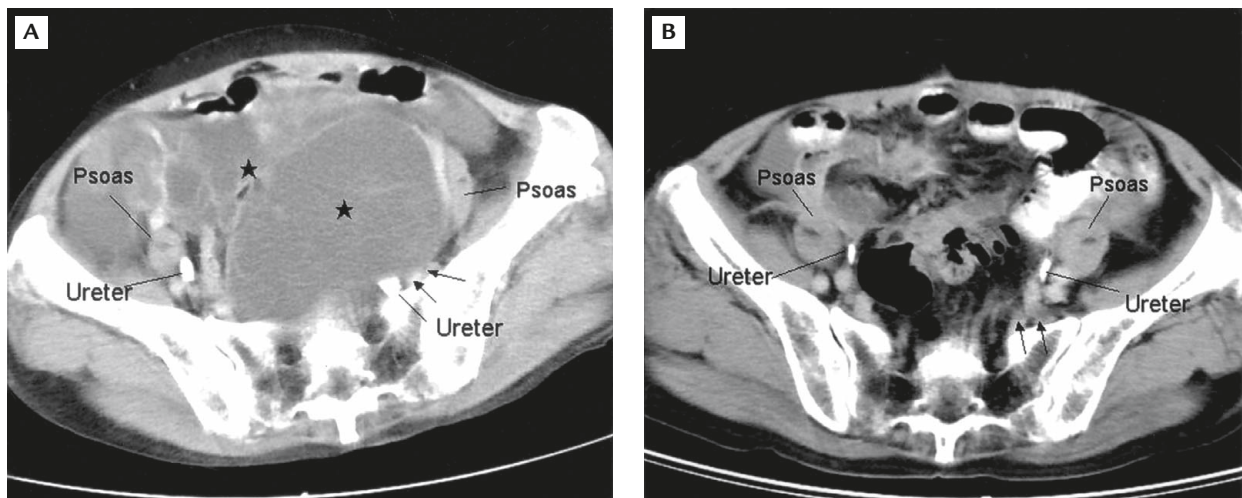


Figure 2. (A) Preoperative enhanced computed tomography shows a huge pelvic mass (★) with severely displaced left psoas muscle from the left ureter compared with the right side. The left internal iliac vessels and lumbar sacral plexus (arrows) were also severely compressed. (B) Postoperative computed tomography shows that the displaced left psoas muscle, left internal iliac vessels, and left lumbar sacral plexus (arrows) had returned to their normal positions after abdominal debulking surgery.

there was no retroperitoneal spreading by the tumor in operative findings. Suboptimal debulking operation was done.

Pathologic examinations proved bilateral ovarian borderline mucinous cystic tumor with PMP. The left foot drop, urine retention, and shooting pain of the left lower limb improved dramatically after debulking surgery. Only mild paresthesia over the lateral aspect of the left leg remained. The patient received 19 courses of adjuvant chemotherapy, but the abdominal tumor recurred with multiple bony metastases 2 years later.

However, no further sciatic symptoms or urinary sphincter function impairment recurred.

Discussion

The impact of intra-abdominal or intrapelvic masses on the nervous system is usually mediated by local invasion or distal metastases.⁵ Colorectal carcinoma and sarcoma represent the most common tumors that cause lumbar sacral plexopathy. The most common

symptoms and signs in lumbosacral plexopathy secondary to cancer are pain, numbness, leg weakness, and sensory loss. Incontinence is unusual and is generally associated with massive intrapelvic tumors.⁶

Clinically, this patient had left L5 radiculopathy, but lumbar spinal imaging studies failed to show direct compression of the left L5 nerve root. Likewise, the mechanism of sciatica caused by intrapelvic tumor with PMP was unclear, and imaging and surgical findings failed to show direct tumor invasion of the lumbosacral plexus. However, preoperative MRI images and CT scan showed severe displacement of the left psoas muscle and left ureter, and showed severe compression of the left internal iliac vessels and lumbosacral trunk caused by the intra-abdominal mass (Figures 1B and 2A). This is the direct evidence that compression of the lumbosacral trunk was caused by the huge pelvic mass, leading to clinical symptoms of left-sided sciatica. Brusse and Visser⁷ and Rageth et al⁸ reported that foot drop during pregnancy or labor was caused by compression of the truncus lumbosacralis against the sacral ala by the fetal head. Lumbosacral plexopathy caused by compression instead of invasion of the intra-abdominal neoplasms with PMP is rarely seen in cancer-induced sciatica. Moreover, decompression may explain the dramatic relief of sciatic symptoms after abdominal debulking surgery in this patient.

Thus, although rare, lumbosacral plexopathy due to compression by intra-abdominal masses should be added to the differential diagnosis of sciatica.

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