



## Liquorrhoea associated with intrapelvic meningocele resection successfully treated by conservative therapy: a case report

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### Abstract

Asymptomatic intrapelvic meningocele is rare. Here, we report the case of a 30-year-old Chinese man who underwent sigmoidectomy due to megacolon. During the operation, an intrapelvic cyst was found and resected. Meningocele was confirmed by histological examination. The patient recovered well postoperatively with the exception of liquorrhoea. Conservative therapy was initiated, including draining, anti-infection and specific posture maintenance. During the following week, liquorrhoea was generally relieved and the patient was discharged. This is the first known report of liquorrhoea associated with intrapelvic meningocele resection successfully treated by conservative therapy. Our case indicates that conservative treatment may be considered for similar cases so that a second surgery is avoided.

**Keywords:** intrapelvic meningocele, liquorrhoea, conservative therapy

### INTRODUCTION

Spinal meningocele is associated with spina bifida cysts and may occur at any age<sup>[1]</sup>. However, intrapelvic meningocele is rare and, without spinal compression, this type of meningocele does not cause any discomfort. For this reason, intrapelvic meningocele has not attracted much attention for a long time. Here, we report a case of an asymptomatic intrapelvic meningocele found incidentally during a sigmoidectomy due to megacolon in a 30-year old male patient.

### CASE REPORT

A 30-year-old male, admitted because of constipation, was scheduled to undergo sigmoidectomy. Pr-

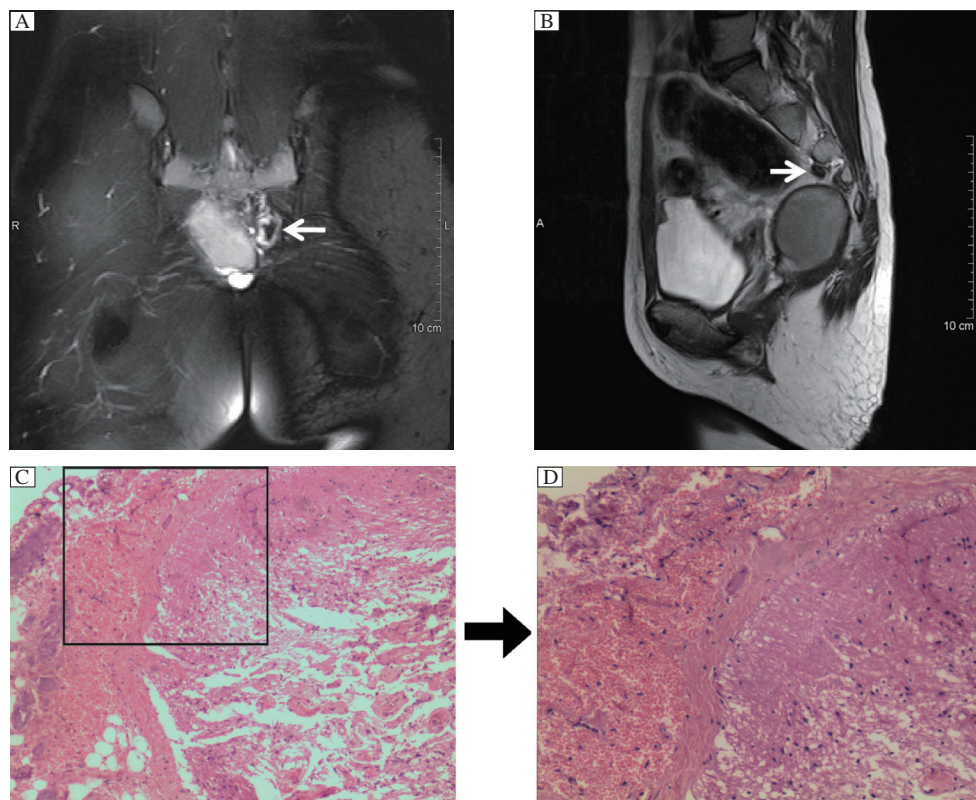
operative magnetic resonance (MR) scan indicated that a cyst was in front of the third sacral vertebrae (S3) (**Fig. 1A** and **1B**). After sigmoidectomy, this cyst was resected. However, on the first postoperative day, 150 mL of amber liquid was drained from pelvic drainage tube. Over the following several days, the volume of this amber liquid had not reduced, but increased. Liquorrhoea was considered and Pandy test showed a negative result. Histological examination of the resected cyst confirmed the diagnosis of liquorrhoea (**Fig. 1C** and **1D**). Because the patient had just undergone sigmoidectomy, conservative treatment consisting of three main steps was considered: drainage, anti-infection therapy (cefpiramide combined with tinidazole) and posturing by raising the position of the

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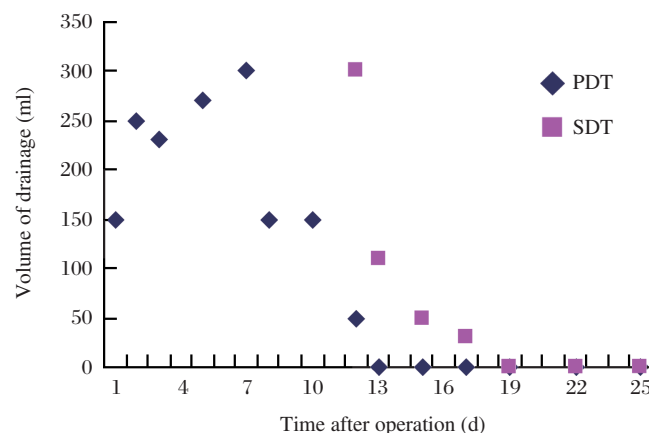
**Fig. 1** Liquorrhoea associated with intrapelvic meningocele resection. MR scan reveals the presence of a cyst 3 cm in diameter (arrow) in front of S3 in a 30-year-old male patient (A: coronal section; B: median sagittal section). Histological examination (C:  $\times 40$ ; D:  $\times 100$ ) showed that the cyst was mixed with nerve collagen tissue (H&E).

lumbosacral region to reduce liquorrhoea. At the beginning, we drained the cerebrospinal fluid (CSF) *via* a pelvic drainage tube. However, because the volume still exceeded 150 mL/d, we placed another drainage tube into the subarachnoid space. On the first day, approximately 300 mL CSF drained from the subarachnoid tube, and 50 mL drained from the pelvic cavity. Over the following three days, the volume of liquid from the pelvic cavity began to reduce generally. The subarachnoid drainage tube was removed on the fourth day and there was no liquorrhoea over the next two days. The pelvic drainage

tube was removed and the patient was discharged. The changes in drainage volume are shown in **Fig. 2**.

## DISCUSSION

Intrapelvic meningocele is defined as a CSF-filled sac within the spinal meningeal wall which protrudes into the intrapelvic cavity through an enlarged intervertebral foramen or bone defect. Acquired meningocele is relatively common as a laminectomy complication, while congenital meningocele is com-



**Fig. 2** The drainage volume after operation. PDT: pelvic drainage tube; SDT: subarachnoid drainage tube.

monly associated with neurofibromatosis<sup>[2,3]</sup>. Isolated intrapelvic meningoceles without neurofibromatosis are uncommon. The clinical manifestation of an intrapelvic meningocele is closely related to its size and relationship with surrounding structures. It may include back pain, urinary and fecal incontinence, and lower limbs weakness or paralysis. A small lesion may be asymptomatic and discovered incidentally, as it was in our case. For small- and medium-sized lesions, the most common surgical management is resection of the meningocele and repair of the dural defect through laminectomy<sup>[4,5]</sup>. In this case, surgery was performed with removal of the meningocele pouches and shunting of the cyst to the subarachnoid region. However, liquorrhoea occurred after the operation. Although liquorrhoea is a common occurrence with cystectomy, it may result in infection of the central nervous system.

The most important consideration in treating liquorrhoea is preventing infection. Incontrovertibly, surgery is an effective way to treat liquorrhoea. In this case, specific posture and drainage in combination with anti-infection therapy were performed instead of

surgery. This conservative method can also treat liquorrhoea effectively and at the same time help patients avoid a second operation.

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