

# Pyogenic ventriculitis following urosepsis caused by *Escherichia coli*

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## DESCRIPTION

A 78-year-old woman with the history of spinal stenosis presented to our emergency room by ambulance with the acute onset of back pain and mild altered mental status. On examination, there was knock pain over the right costovertebral angle. Urinalysis showed pyuria and bacteriuria. She was admitted with a diagnosis of urinary tract infection. Empiric treatment was started with intravenous ceftriaxone. An initial CT scan showed bilateral ventricular enlargement (figure 1). Because she had prolonged disturbance of the consciousness, a lumbar puncture was tried with suspected meningeal dissemination; it was failed due to her difficulty in appropriate positioning for the procedure. Surprisingly, repeated CT scan on day 3 after admission showed increased ventricular densities with fluid-debris levels in the dependent portions of the bilateral lateral ventricles (figure 2). A diagnosis of pyogenic ventriculitis complicated by urinary tract infection was considered and emergent bilateral ventricular drainage was performed with good clinical improvement. Cultures of urine, blood and ventricle-drained pus all grew *Escherichia coli* with the same antibiogram profiles including susceptibility to ceftriaxone in the drug sensitivity test. Pyogenic ventriculitis is rare but can be a serious complication from sepsis including urosepsis.<sup>1 2</sup> Urgent diagnosis and neurosurgical drainage is mandatory for preventing neurological morbidity from this important central nervous system complication from any types of sepsis.



**Figure 1** Brain CT scan without contrast enhancement on the day of admission.



**Figure 2** Brain CT scan without contrast enhancement on day 3 after admission.

## Learning points

- ▶ It is uncommon but pyogenic ventriculitis is one of the important central nervous system complications from any type of sepsis, which require urgent surgical intervention.
- ▶ Images are obvious to show progression of infection.
- ▶ Cultures of urine, blood and ventricle-drained pus all grew *Escherichia coli* with same antibiogram.

**Contributors** HK and TS mainly took care of the patient during the entire admission and YT contributed in the writing of the manuscript.

**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Commissioned; internally peer reviewed.

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