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**Articles to date in this series**

- Chertkow H. Diagnosis and treatment of dementia: Introduction. Introducing a series based on the Third Canadian Consensus Conference on the Diagnosis and Treatment of Dementia. *CMAJ* 2008;178:316-21.
- Patterson C, Feightner JW, Garcia A, et al. Diagnosis and treatment of dementia: 1. Risk assessment and primary prevention of Alzheimer disease. *CMAJ* 2008;178:548-56.

## Clinical vistas briefs

## What's your call?

Computed tomography scan of the abdomen of a 77-year-old woman without diabetes who was admitted to hospital because of hyperthermia, abdominal pain and confusion.

See page 839 for diagnosis.

Clinical vistas briefs

## Emphysematous cystitis

A 77-year-old woman without diabetes was admitted to hospital because of confusion, hyperthermia and abdominal pain, which rapidly progressed to septic shock. A computed tomography scan of her abdomen demonstrated a thickened, trabeculated bladder wall containing pockets of gas (Figure 1). Cultures of her urine grew more than $1 \times 10^6$ colonies of *Escherichia coli*. Despite intravenous antibiotics and bladder catheterization, the patient died a few days after admission.

Emphysematous cystitis, first identified in 1882 by Keyes,[1] is a rare condition that is characterized by gas collections inside the bladder wall. The clinical presentation of emphysematous cystitis is nonspecific and ranges from asymptomatic urinary tract infection to septic shock, as in our patient's case. It is thought that the gas collections are carbon dioxide produced by the fermentation of glucose or albumin by micro-organisms infecting the bladder. The most common causative organisms are *E. coli*, *Enterobacter aerogenes* and *Klebsiella pneumoniae*. Fifty percent of cases of emphysematous cystitis occur in patients with diabetes. Alcoholism, undernourishment and poor health are all risk factors.[2] About 1 in 10 patients who receive diagnoses of emphysematous cystitis will die from the condition. Conventional radiography and ultrasonography are often the initial imaging methods used to evaluate patients with abdominal pain. Nevertheless, computed tomography is considered to be the preferred method because of its high sensitivity and specificity in the detection of abnormal gas and its anatomic extension.[3]

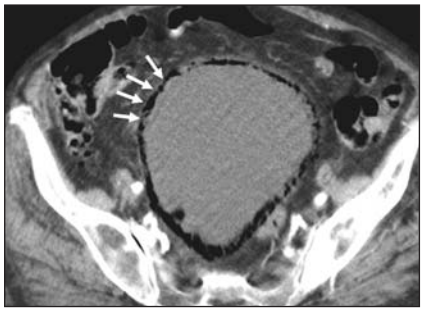

**Figure 1:** Computed tomography scan of the abdomen of a 77-year-old woman, showing a thickened bladder wall containing pockets of gas (arrows).

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This article has been peer reviewed.

**Competing interests:** None declared.

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DOI:10.1503/cmaj.070524