

posals is that excessive catecholamine levels in sepsis cause a downregulation of beta-adrenergic receptors as a protective mechanism against myocardial toxicity (Jozwiak et al, 2011).

Clinicians should be aware of this dual pathology which may contribute to severe transient ventricular dysfunction. **BJHM**

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LEARNING POINTS

- Emotional stress is an accepted precipitant of transient ventricular apical ballooning characteristic of takotsubo cardiomyopathy.
- Sepsis is most commonly associated with transient biventricular failure.
- Severe medical illness, including sepsis, may also cause takotsubo syndrome.
- A dual pathology may contribute to severe transient ventricular dysfunction.

IMAGES IN MEDICINE

Emphysematous pyelonephritis in a diabetic patient with autosomal dominant polycystic kidney disease

Emphysematous pyelonephritis is a rare, severe, gas-forming infection of the renal parenchyma that commonly occurs in diabetics or in patients with urinary tract obstruction.

A 77-year-old woman, known to have autosomal dominant polycystic kidney disease and diabetes, presented with fever and left flank pain. Computed tomography scan on the day of admission (*Figure 1*) showed cystic infection with abscess. On the third day the patient's symptoms (e.g. fever and chills) were worse. Computed tomography follow up (*Figure 2*) showed emphysematous pyelonephritis with an air pocket in the renal parenchyma along with cystic infection showing wall thickening.

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Blood culture showed extended spectrum beta-lactamase-producing *Escherichia coli*. Her antibiotics were changed from ciprofloxacin to meropenem.

Finally her vital signs and lab results got better, which was consistent with computed tomography scan results (*Figure 3*) showing complete regression of emphysematous pyelonephritis and cystic infection with abscess on the 21st hospital day. This highlights that emphysematous pyelonephritis can be cured by medical treatment, in this case using meropenem, without needing surgical intervention. **BJHM**

Figure 1. Computed tomography scan on the day of admission showing multiple air fluid levelled cysts 3.6 x 2 cm in size, with abscess formation at the upper lateral portion of the left kidney suggesting cystic infection.



Figure 2. Computed tomography on the third day in hospital, showing the increased extent of cystic infection. A renal parenchyma air pocket (arrow) consistent with emphysematous pyelonephritis was newly noted.



Figure 3. Computed tomography after 3 weeks, showing partial regression of the abscess and complete resolution of the renal parenchymal air pocket.

