Royal Australasian College of Surgeons

ANZASM Case of the Month

February 2024 Edition

(case selected by the ANZASM Committee for your information)

Unacceptable delay in transfer to tertiary-level care contributes to death from sepsis

Urology

Case summary

A 44-year-old woman with diabetes presented to a regional hospital with severe abdominal pain and hypotension. She had previously (12 years prior) been admitted to the intensive care unit (ICU) of a tertiary hospital for multiorgan failure related to *E. coli* urosepsis. She had undergone repair of a ventricular septal defect as an infant.

The patient was extremely unwell on presentation, with a recorded blood pressure of 65/46 mm Hg and sinus tachycardia of 108 beats per minute. She was found to be acidotic on blood gas estimation and had significant renal impairment (creatinine 319 µmol/L). She was immediately treated with intravenous fluids, antibiotics and inotropic support. Two hours after presentation, referral was made to the Royal Flying Doctor Service (RFDS) for urgent transfer to a tertiary teaching hospital for ICU care.

The patient's care was appropriate during her time at the regional centre, with ongoing fluids, inotrope support and antibiotics; however, over the next 18 hours she deteriorated from multiorgan failure while awaiting the RFDS to arrive. The medical records show that the RFDS was re-contacted 8 hours after the initial contact. Hospital staff were told that the transfer had been delayed due to the transfer of a higher-acuity patient from another regional facility.

Some 22 hours after presentation to the primary hospital, the patient arrived at the tertiary hospital in extremis, ventilated and requiring full inotrope support. The CT scan stated there was an enlarged right kidney with pyelonephritis with perinephric stranding. There was no evidence of hydronephrosis; however, a stent was applied to exclude obstruction in the setting of profound sepsis. There was blood and a clot in the right ureter but no stone. The patient failed to respond to further resuscitative measures and died less than 48 hours after initial presentation at the tertiary hospital. The death was referred to the coroner; however, no report was available to the second-line assessor.

Discussion

Delays in transfer are a common problem affecting regional hospitals. Had this patient presented to a tertiary hospital ICU she may well have survived. Vast distances to some regional hospitals and competing demands complicate transfers. It is likely that delays contribute to patient mortality or morbidity more frequently than is recognised.

Separately, the indication for stenting in this patient in the absence of hydronephrosis is unclear. Intervention in such cases can cause problems.

Clinical lessons

This case illustrates 3 themes on which ANZASM has reported on several previous occasions: failure to rapidly escalate the urgency for transfer for a patient who deteriorates; recognition that urological sepsis has the potential to become rapidly lethal and must be managed with great urgency and at a senior level; and the inability of some regional hospitals to offer urological drainage on site.

This is the second national Case of the Month in less than a year where a regional hospital was unable to offer urological drainage on site. In this case, the regional hospital was very small and such an intervention would never be an option.