

ANZASM Case of the Month

October 2025 Edition

(case selected by the ANZASM Committee for your information)

Respiratory failure secondary to retroperitoneal haematoma following renal stenting

Vascular Surgery

Case summary

A patient in his late-80s was found to have renal artery stenosis on duplex ultrasound. He had known vascular disease and previous coronary artery bypass surgery followed by a coronary stent two years prior. After an angiogram 6 weeks prior to the current admission the cardiologist indicated no intervention was required. He had a renal lower pole lesion on the ipsilateral side.

The patient was electively admitted to a private hospital at 08:00 and underwent an apparently uneventful endovascular intervention. He became hypotensive shortly afterwards. He was reviewed by the surgeon and transfused. The emergency response team (ERT) was called at 12:30. A renal injury was presumed and a CT angiogram revealed a large retroperitoneal haematoma. The surgical case form suggested this was likely secondary to the endovascular procedure.

The patient was returned to theatre for attempted embolisation, but no culprit vessel was identified. He was admitted to ICU, where the notes document that the lower pole lesion had slightly increased in size. The progress notes do not indicate any involvement of a urologist. Non-specific pulmonary infiltrates were suspicious for a previously undocumented neoplastic process. He was appropriately transfused to a target haemoglobin of 100 g/L.

At 10:20 the next morning, it was decided to transfer him out of ICU; however, this did not happen until 18:00. At 05:15 (almost 12 hours later) he complained of chest pain radiating down the arm. The ERT was called. The electrocardiogram (ECG) suggested non-ST elevation myocardial infarction. He responded to glyceryl trinitrate (GTN) and was admitted to the coronary care unit (CCU). The patient admitted to anginal pain with minimal exertion on most days, for which he used GTN.

After review the next day he was transferred to ICU, as the primary problem was not perceived to be coronary. With the benefit of a CT scan, the ICU notes suggested aspiration pneumonia. An incidental small, deep vein thrombosis was also recognised.

The patient improved with ongoing oxygen requirements, and 48 hours later he was again transferred to the ward and discharge planning commenced. However, over the next 6 days he progressively deteriorated secondary to respiratory failure. Multiple ERT calls were placed during this time. On the sixth day, he was readmitted to ICU for type 1 respiratory

failure secondary to pneumonitis. He progressed to respiratory failure requiring intubation. After family meetings, support measures only were offered. The patient passed away 22 days after admission.

Discussion

There are several areas where management in this case could have differed.

The first-line assessor questioned whether a nephrology opinion was sought preoperatively. Despite the documentation suggesting a reasonable indication for renal stenting, a preoperative nephrologist opinion supporting intervention should have been attained, especially given the patient's clinical status. The published literature indicates marginal benefit of renal intervention.

While it is likely the renal lesion/tumour was known preoperatively, this is not clearly stated. This may have influenced the decision to intervene. It also may have played a role in the retroperitoneal bleeding (i.e. bleeding from the tumour). Without the ability to review the angiogram images, it is not apparent if misadventure of the guidewire into the renal parenchyma occurred or if this was an arterial injury.

The haematoma was very large on the CT angiogram, so it was appropriate to explore embolisation of a culprit lesion. The significant size of the haematoma likely caused a tamponade effect, so it is unsurprising that nothing was seen.

The patient was transferred between ICU and the ward on 2 occasions. These ultimately reflect failed discharges from ICU. For an elderly comorbid patient with a significant postoperative complication requiring transfusion, discharge from ICU should not have occurred so soon nor so late in the day. Given the relative rarity of the complication, perhaps there was a lack of awareness of the potential clinical consequences.

Despite a couple of notes of a discussion with the admitting vascular surgeon, there is no evidence of a personal review by the admitting surgeon or proxy.

This was a high-risk patient who had a complication that led to a progressive deterioration. The apparent lack of postoperative review by the admitting consultant was not appropriate. Arguably, there should have been a discussion of goals of care prior to admission. Certainly, this should have occurred during the admission as the patient deteriorated, likely resulting in a more dignified death for this patient.

Clinical lesson

An iatrogenic wire injury is not an uncommon complication. Unfortunately, this set off a cascade of further events, ultimately resulting in the death of a comorbid elderly patient with little reserve capacity. While greater multidisciplinary consultant discussion would probably not have changed the outcome, it would likely have prevented prolongation of increasingly obvious futile treatment.

Disclaimer

Please note that these cases are edited from ANZASM first- or second-line assessments that have been generated by expert surgeons in the field. Any recommendations relate to these cases as they were presented.