ANZASM Case of the Month
April 2024 Edition

(case selected by the ANZASM Committee for your information)

Delayed diagnosis and intervention in an elderly patient presenting with neck of femur fracture

Orthopaedic Surgery

Case summary

An 87-year-old woman was admitted to hospital 24 hours after a fall in her nursing home. She was unresponsive at admission. She was classified as ASA 4E (American Society of Anesthesiologists physical status classification system), with numerous comorbidities including severe renal insufficiency, anaemia and cardiac failure. Her haemoglobin was 88 g/L. Computed tomography (CT) scanning of the brain, spine, abdomen and pelvis noted no fractures apart from an old T-12 wedge fracture of the spine. Cardiologist review recommended nonoperative management, given her cardiac status.

On day 2 of admission, the patient was reviewed by the admitting medical team. Both hips were noted to be symptomatic, with the left hip the worst. The cardiologist reviewed her again and noted right lower limb pain.

In the early hours of day 3, the nursing staff called the night-cover medical officer for review in response to swelling of the patient's right thigh. An ultrasound was ordered to exclude deep vein thrombosis. A subsequent CT scan that day indicated a greater trochanteric fracture, prompting referral to the orthopaedic team, which recommended magnetic resonance imaging (MRI) – it is unclear if this took place. The surgeon reviewed her that same day.

The patient was reviewed daily for the next 3 days, with nursing entries noting significant pain as she was repositioned in bed.

On day 7 of admission, she was reviewed by the cardiology, medical and orthopaedic teams and a pelvic X-ray was ordered. On day 8 she consented to intervention and proceeded to theatre, where the fracture was fixed with a proximal intramedullary nail. No intraoperative complications were noted apart from a tight femoral canal that required reaming. No intraoperative fluoroscopy report was included, nor was a postoperative X-ray report.

The day after surgery the patient experienced a severe cerebrovascular accident. She died 2 days later (day 11 of admission).

Discussion

First-line assessment noted several potential concerns with this case:

Involvement of an orthogeriatric service

The patient was admitted medically with early involvement of a cardiologist. The medical team remained involved in the patient's care throughout her hospital stay. While not an orthogeriatric service per se, this arrangement may be accepted as a 'quasi' orthogeriatric service in some areas. It is notable that a nonoperative approach was recommended by the cardiologist on the day of admission. It is unclear whether this was communicated effectively to the rest of the team.

Diagnosis of the injury

The diagnosis leading to surgical intervention lacked clarity. Radiological reports were unavailable at the time of assessment to confirm whether there was a greater trochanteric fracture or an inter-trochanteric fracture. Confusion was also evident in the medical notes, where 2 entries indicated conflicting diagnoses—one a greater trochanteric fracture and the second an inter-trochanteric fracture. An appropriate investigation should have been recommended and reviewed by day 2 of admission at the latest. The delay in achieving a diagnosis and the resultant delay in surgical intervention is a justifiable concern.

Indication for surgery

The indication for surgical intervention and stabilisation remains unclear. A trochanteric fracture or an undisplaced inter-trochanteric fracture in a patient with the comorbidities documented can be managed nonoperatively with appropriate analgesia and nursing care. In a high-risk patient with poor medical reserve, a decision to offer palliation is also appropriate. It is unclear whether this was considered or offered to the patient and her family.

Clinical lessons

This patient was a high-risk admission for a condition that would normally carry a high mortality rate. The delay in the diagnosis, the lack of a clearly documented diagnosis, the undocumented option of palliation, and the potential lack of communication between team members all represent areas that could have been improved in this patient's care.

ANZASM comment

The issue of non-operative management of hip fractures is a matter of interest to both the Australian and New Zealand Hip Fracture Registry (ANZHFR) and the UK National Hip Fracture Database. The ANZHFR is actively exploring this issue, with a supplementary report planned to be released in the second half of 2024 (please see here for their reports).