Fractured femur in the elderly: intensive perioperative care is warranted

A case report in this month’s issue of the British Journal of Anaesthesia describes the in-hospital management of the oldest living Briton, who at 113 yr sustained a fractured femur. The initial plan was to confine her to bed (to die), but after 8 days of unsatisfactory care, she was operated on successfully, received intensive care after surgery and was discharged home. This case highlights several clinical issues, including whether it is appropriate not to operate on these patients and how intensive the care should be. It raises a number of ethical issues for physicians and society, in addition to immense economic implications.

The problem of treating fractured femurs in the elderly is immense. In 1990, it was estimated that 1.7 million patients worldwide had a femoral neck fracture and there were 300 000 in the USA. It is difficult to estimate the costs as they vary among countries, but in 1988, each elderly patient cost between $35 000 and $38 000 to treat in the USA. It is the very elderly who pose the greatest risk and the proportion of the very elderly is increasing. For example, in New Zealand, the proportion of patients treated for femoral neck fracture who were more than 85 yr old was 17% in 1905, 40% in 1987 and it is projected that by 2011 the proportion will be 65%. It is the very elderly (patients over 80 yr) who pose the greater perioperative risk, have the highest 1-yr mortality and are least likely to be independent after hip fracture. Remarkably, in spite of the enormity of the problem, little attention is directed towards these patients in the anaesthetic literature.

There appears to be a reluctance to treat these patients aggressively; in a sense, they are being ‘red-lined’. There are several reasons: they are mainly elderly, non-working members of society; they are often living alone or in nursing homes; many are medically ill; and 27% are admitted to nursing homes after the fracture. Finally, there may be concerns over the liability of audit consequences if the patient dies in the operating theatre.

Published numbers suggest that many of these patients die within a year of the fracture. In the USA, 1-yr mortality is 24% overall with 4% in-hospital death. Dementia, ASA category and age influence mortality age. Mortality may be 4–5 times higher in ASA III and IV patients than in ASA I and II patients. Risk of dying within 12 months is about 10% in patients aged 60–69 yr, increasing to 50% in the over-90-yr-old group. Most of the excess mortality in the elderly occurs in the first 6 months after surgery.

However, better anaesthetic and perioperative care with aggressive rehabilitation may improve outcome. Surgeons who perform more hemiarthroplasties for fractured hip have lower rates of complications and mortality, and reduced length of hospital stay. Hospitals which perform more surgery for fractured hip likewise have a lower mortality, and major teaching hospitals in the USA have about a 40% lower mortality than others. These data suggest that optimal care may reduce cost and improve outcome.

The experience at the Cornell Medical Center is interesting in this regard. A 1-yr follow-up of 68 patients more than 90 yr old who had repair of a fractured hip at New York Hospital (a large acute care teaching centre of the Cornell Medical Center) was performed. One patient died in-hospital and two during the next year (Charles N. Cornell, MD, personal communication). At the Hospital for Special Surgery, an elective orthopaedic hospital within the Cornell Medical Center, most fractured femur patients receive regional anaesthesia, radial artery and central venous pressure monitoring, 12–24 h of high acuity care, and intensive early rehabilitation. Many receive low-dose epidural analgesia for 24–48 h, which may enhance rehabilitation as has been shown for total knee arthroplasty. Over the past 3 yr, the in-hospital mortality was 1.5% (three of 204). These data suggest that more intensive expert care may lower perioperative mortality following a fractured hip. The 113-yr-old patient reported in this month’s British Journal of Anaesthesia ultimately received intensive therapy and was discharged home.

How should one handle the elderly and medically complex patient with a fractured femur? Leaving these patients in traction and administering systemic opioids is an unacceptable option—‘conservative measures were ineffective and the patient was confined to bed in pain with no chance of survival’. This mode of treatment is not only ineffective but also inhumane as patients develop contractions of the hip, bedsores and die slowly of sepsis, pneumonia or pulmonary emboli. Finally, from an economic point of
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References


