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Oldest old less likely to be investigated or aggressively treated after surgery

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Patients aged 80 and above are significantly less likely to be investigated or aggressively treated after surgery than their younger counterparts, reveals a national audit of hospital deaths, published in the online journal *BMJ Open*.

This is despite the fact that the oldest old have higher rates of trauma and multiple underlying conditions on admission, say the Australian researchers.

Care in the oldest old may be less aggressive, or scaled down because the outcome is expected to be poor or treatment considered futile, they say. Perceived future quality of life issues may also be a factor.

The researchers assessed data from a national audit of deaths after surgical procedures in every specialty carried out between 2009 and 2012 in 111 public and 61 private hospitals across Australia. This included one in five private hospitals and virtually all public teaching hospitals (99%).

In all, nearly 20,000 surgical patients died in hospital. Around half of these deaths were excluded because of data issues or because they occurred in people classified as brain deaths, or in those younger than 17 or in those who had had no surgery.

Some 11,201 were included in the final analysis. This group was divided into three age bands: 17-64; 65-79; and those aged 80 and above.

The researchers looked at the relationship between age, preoperative factors, such as multiple underlying conditions or trauma, and eight indicators of postoperative care.

These indicators were: fluid balance problems; return to theatre; unplanned intensive care unit admission; treatment in an intensive care unit; clinical issues; postoperative complications; the presence of infection at death; and whether, with hindsight, the surgeon would have managed the patient differently.

The average age of those who died soon after a surgical procedure was 78, and just under 44% (4892) were aged 80 and above. Of those who died in hospital, most had been admitted as emergencies (83.4%). Nearly half (45%) had an incapacitating and life threatening disease on admission.

The oldest old had higher rates of admission as a result of trauma or other emergency than either of the two other age groups. But they were treated differently, receiving lower levels of aggressive and expensive treatment.

They had around half the rate of unplanned returns to theatre (11.2%) of those aged 65-79 (20.2%). They were also less likely to have unplanned admissions to intensive care (16.3% vs 24%) and less likely to be treated in intensive care (59.7% vs 76.7%).

On average, the most elderly spent fewer days in hospital than those aged between 65 and 79 (9 vs 11 days) but more than the youngest (8 days). And they were less likely to have postoperative complications diagnosed and reported than 65-79 year olds.

Those aged between 65 and 79 also had a higher prevalence of cancer, which may have explained their higher rates of admission to intensive

care, a move "that is often rationalised due to high operational costs whatever the age group," they write.

Surgical care for older patients tends to be complex, because of functional, physiological, psychological, and social factors, which are likely to influence decisions about their hospital care, say the researchers.

None the less, they point out that the oldest old had the lowest rate of diagnosed postoperative complications of all the age groups, despite virtually all of them having multiple underlying conditions, which are usually associated with a higher risk of problems arising after surgery.

"Our data suggest that there may be a culture of less intensive investigation, monitoring and possible failure to intervene in the elderly group," they say, adding that the costs of surgery may rise more slowly than expected if older people continue to be given less aggressive postoperative care.

More information: Surgical care for the aged: a retrospective cross-sectional study of a national surgical mortality audit, *BMJ Open*, DOI: 10.1136/bmjopen-2014-006981

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