

Emergency treatment by older surgeons linked to slightly lower death rates

Patients undergoing emergency surgery who are treated by older surgeons (aged 60 or over) have slightly lower death rates in the first few weeks after their operation than patients treated by younger surgeons (aged less than 40) within the same hospital, finds US study published by *The BMJ* today.

There was no evidence that death rates differ between male and female surgeons.

If the results are causal, the researchers say that for every 333 of these patients who undergo surgery in the US, one fewer death would occur if quality of care was the same between younger and older surgeons.

Despite strong interest in improving the quality of surgical care, the relationship between surgical characteristics – especially age and sex of surgeons – and patient outcomes is not well understood.

So a research team led by Yusuke Tsugawa at UCLA in California, set out to investigate whether patient mortality differs based on age and sex of surgeons.

They analysed the operative mortality rate (defined as death while in hospital or within 30 days of surgery) of Medicare patients aged 65-99 years who underwent one of 20 major emergency surgical procedures at US acute care hospitals between 2011 and 2014.

After adjusting for a range of patient, surgeon and hospital characteristics that could have affected the results, they compared operative mortality according to surgeon age and sex.

A total of 892,187 patients were treated by 45,826 surgeons with an overall operative mortality rate of 6.4% (56,803).

The researchers found that patient mortality was slightly lower for older surgeons than for younger surgeons within the same hospital (6.6% for surgeons aged less than 40, 6.5% for surgeons aged 40-49, 6.4% for surgeons aged 50-59, and 6.3% for surgeons aged 60 or over), but did not differ meaningfully between male and female surgeons.

When they analysed the data by both surgeon age and sex, patient mortality declined with surgeon age for both male and female surgeons, with female surgeons in their 50s showing the lowest operative mortality across all groups.

Operative mortality did not differ between male and female surgeons by patient illness severity or for individual procedures. And there was no evidence that mortality differed by surgeon age or sex for non-emergency (elective) procedures.

Previously, the researchers found worse outcomes among patients treated by older hospital physicians, which they attributed to practice changes since training, and possibly poor adherence to guidelines. In contrast, these new findings suggest improved surgical skills with extra years in practice.

This is an observational study, so no firm conclusions can be drawn about cause and effect, and the findings may not be generalisable to other outcomes, such as patient experience or complication rates, they explain. Nevertheless, the study was large, and was able to account for a wide range of potentially influential factors.

As such, they conclude: "Our finding that younger surgeons have higher mortality suggests that more oversight and supervision early in a surgeon's career may be useful and at least warrants further investigation. Equivalent outcomes between male and female surgeons suggest that patients undergoing surgery receive high-quality care irrespective of

surgeon sex.”

In a linked editorial, Natalie Coburn and colleagues based in Toronto say the researchers “demonstrate clear variation in patient outcomes, identifying opportunities to improve care.”

However, they warn that even objective measures are insufficient to address systemic bias. “We must learn to recognise and reduce the implicit biases that each of us inherently holds,” they write. “Surgical care will improve faster when we embrace and foster teamwork, communication and diversity within our field.”

Explore further:

Study finds small differences in patient outcomes between male and female surgeons

More information:

Age and sex of surgeons and mortality of elderly surgical patients: observational study, *BMJ* (2018). www.bmj.com/content/361/bmj.k1343

Editorial: Links between age and sex of surgeons and patient outcomes, *BMJ* (2018). www.bmj.com/content/361/bmj.k1691

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