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EDITORIALS

Improving patient outcomes after surgery

The sex of the surgeon is unlikely to be relevant

Clare Marx *immediate past president*, Derek Alderson *president*

The Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 3PE

Factors associated with variation in outcome after surgery have been a topic of major interest for the past 20 years. By far the most explored is the relation between case volume and outcome. Hospital and surgeon volumes have been examined in most surgical specialties and related to many short and long term outcomes.[1-3] Certainly for more complex procedures, higher institutional volumes correlate with better outcomes. The evidence for individual surgeons is less clear, often reflecting the outcome. Low volume cardiac surgeons, for example, have only slightly higher rates of complications but far higher rates of death in hospital than high volume surgeons.[4]

Virtually all studies that examine factors related to surgical outcome are observational. Causal relations are difficult to prove. As a result, programmes to improve quality of care, such as the National Surgical Quality Improvement Programme in the US or Getting It Right First Time in the UK, aim for a better understanding of what those achieving the best outcomes are doing. These elements of best practice can then be incorporated into care at institutions that perform less well.

In the linked research paper (doi:10.1136/bmj.j4366), Wallis and colleagues looked at variation in outcomes related to being under the care of a male or female surgeon. They found that, for a composite endpoint of complications, readmission rates, and 30 day mortality, female surgeons outperformed male surgeons, with a significant reduction in the rate of this endpoint from 11.6% (6046 of 52 315 patients; 95% confidence interval 11.3% to 11.8%) to 11.1% (5810 of 52 315 patients, 10.9% to 11.4%; adjusted odds ratio 0.96, 0.92 to 0.99).

The authors compared outcomes in over 100 000 patients after a wide range of operations across many specialties. They went to some lengths not only to match male and female surgeons of similar age and experience but also to match the patients on whom they operated for age, comorbidity, and income.

The reported difference in short term outcomes may be statistically significant, but is it biologically sound or clinically meaningful? Patients undergoing these procedures tend to focus on long term outcomes. Patients who have elective arthroplasty, for example, are concerned with pain relief and subsequent return to physical activity, and patients with cancer tend to focus on the risks of recurrence and long term survival.

Secondary analyses of the individual components of the composite primary outcome are enlightening. Wallis and colleagues report no difference between male and female surgeons in readmissions or complications, but they do report a significantly lower 30 day mortality among patients managed by female surgeons (adjusted odds ratio 0.88, 0.79 to 0.99, P=0.04). The authors acknowledge, however, that their observational study has many of the usual shortcomings and warn that, as the small differences in outcome reported after elective surgery disappeared in retrospective analyses of emergency operations, the headline reduction in 30 day mortality associated with female surgeons is probably due to unmeasured confounding factors.

Surgery is a specialty that continues to struggle with unconscious bias among patients and health professionals, and gender inequality persists. In this large Canadian study only 23.4% of surgeons were female, and only 12.4% of patients were treated by women. This study helps to combat these lingering biases by confirming the safety, skill, and expertise of women surgeons relative to their male colleagues.

Improving surgical outcomes is a complex undertaking. Surgeons and researchers tend to focus on physical and clinical endpoints, often failing to acknowledge the importance of the social and emotional outcome after surgery. Hospital providers are more concerned with cost effectiveness and efficiency savings than community costs. With so many critical factors to consider, trying to find out why there is a very small difference in short term clinical outcomes between male and female surgeons is unlikely to prove worthwhile. Nor are we convinced that the sex of the surgeon will emerge as an important determinant of a good outcome for patients having surgery.

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cmarx@rcseng.ac.uk

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