INVITED COMMENTARY

Problems of Gender

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The Dutch Surgical Aneurysm Audit[1] reports that the peri-operative mortality after aneurysm repair in women is higher than in men. The 7.3% peri-operative mortality in women following open repair is greater by a factor of 1.56 than the 4.67% peri-operative mortality in men. This difference was found to be statistically significant. After endovascular aneurysm repair the peri-operative mortality was 1.13% *vs.* 0.77% respectively, not statistically significant, perhaps due to small numbers, but still greater by a factor of 1.46. The Vascunet report[2] found very similar findings with a crude overall peri-operative mortality of 4.0% in women and 2.6% in men. The reasons why women are 50% more likely to die after an aneurysm repair than men merit consideration.

It seems likely that most vascular surgeons would point to differences in physiology between men and women as the cause of differences in peri-operative mortality. Smaller size, smaller arteries, lower muscle mass, and hormonal differences may all play a role. However, there are also aspects of female physiology such as a wider pelvis that might be expected to prove an advantage in aneurysm surgery. Moreover, while physiological gender differences in general exist there is considerable overlap, and one only has to think of women from the world of sport such as Serena Williams and New Zealand shot put Olympic champion Dame Valerie Adams to recognise that the generality of women being smaller does not apply to all.

The danger of not understanding the underlying reasons behind the reported gender differences is that we adopt recommendations based on gender rather than the underlying factors that are important. The ESVS 2019 guidelines[3] suggest a threshold for aneurysm intervention of 5.0 cm in women. If the underlying reason for adopting a smaller threshold in women is that they are generally of smaller size then we should apply this threshold based on size rather than gender and offer repair at 5.0 cm to smaller men and 5.5 cm to larger women. Of course, recording of gender in databases is routine while recording height and weight is not. Recording muscle mass and hormone levels would require a specific intent to measure these variables.

While most vascular surgeons will be comfortable with a physiological explanation for gender disparities, there remains at least a theoretical possibility that some of the observed difference is due to discrimination. Of course, the perpetrators of discrimination almost always deny the discrimination and outrage among (the mostly male) vascular surgeons at the suggestion that female patients are discriminated against would be expected. Outrage is always a poor substitute for data and perhaps we are beholden to collect the data and to demonstrate that we are not adopting different standards of care for women.

One final thought: Do we really still live in a gender binary world? If so, do guidelines suggesting a lower aneurysm diameter threshold in women apply to transgender patients, women with hyperandrogenism, or those that choose to take testosterone?

REFERENCES

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