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Commentary: Gender and outcomes: It's complicated

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The first step to correcting a problem is recognizing that one exists. Zwischenberger and colleagues¹ focus our attention on the “Inconvenient Truth” regarding gender discrepancies in the surgical care of patients with coronary artery disease. They convincingly point out that based on historical and more contemporary data, gender difference in care do exist and may, at least in part, contribute to the noted suboptimal outcomes among women. Despite the robust published data on the influence of gender on outcomes in cardiovascular disease, it is not clear how much of these outcomes differences are attributable to correctable practice care process patterns versus immutable difference in pathology and physiology.^{2,3}

At the outset, I need to acknowledge that, as a male surgeon, I bring my own gender-specific biases and that the comments that follow must be interpreted in this context. The provocative results that Zwischenberger and colleagues¹ highlight beg the question of what is behind the noted differences and how best to drive change in practice patterns to mitigate these discrepancies and thus possibly improve outcomes. Because change in health care occurs at a glacial pace, I suspect that the journey to both goals will not be easy or simple. We need only to look at the efforts to increase the utilization of multiarterial bypass grafting (MABG) in both men and women to understand the challenges associated with driving change. Despite 3 decades of data showing⁴⁻⁶ improved outcomes, the current utilization remains at roughly 10% of patients undergoing coronary artery bypass grafting (CABG).⁷ The simple, but I believe erroneous conclusion, is that the noted gender

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CENTRAL MESSAGE

In patients with coronary artery disease, gender-based differences in care and outcomes exist, but the basis for these differences and possible mitigating strategies warrant further investigation.

discrepancies in care are somehow intentional and premeditated. More likely, a complex set of factors is at play, not least of which may be less surgeon familiarity with MABG techniques in female patients given the fact that women constitute only 24% of the national CABG cohort of whom less than 10% receive multiple arterial graft. The overall national inexperience with MABG among women, is further complicated by the more technical challenges associated with smaller female arterial conduits and targets⁸ as well as the increased comorbidities and older age in women compared to men. In the face of increased patient complexity, surgeons practicing in the current risk-averse environment will tend to gravitate to the techniques with which they are most comfortable and thus default to traditional single arterial CABG rather than MABG. Of course the aspirational goal should be to increase both male and female surgeons' comfort with MABG in both genders. Data on the use of MABG by male versus female surgeons is currently unknown.

This report should serve as impetus to critically reexamine our gender-specific practice patterns individually, institutionally, and nationally. If nothing else, a close, critical review of our practice patterns may produce some beneficial results simply by the Hawthorne effect—a well-described phenomenon whereby focusing attention on a given process and the consequent result may by itself

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TABLE 1. Coronary artery bypass graft (CABG) procedures in male versus female patients performed by male vs female surgeons at University of Massachusetts-Baystate between January 1, 2020, and June 30, 2021

Variable	All surgeons	Female surgeon	Male surgeon
Total CABG cases	482	110	131
Male patients			
% of CABG	78.01	79.09	76.34
% of RA use	57.98	56.32	69.00
% of ITA use	98.94	98.85	100.00
Female patients			
% of CABG	21.99	20.91	23.66
% of RA use	50.00	52.17	74.19
% of ITA	98.11	100.00	96.77

RA, Radial artery; ITA, internal thoracic artery.

improve outcomes due to a variety postulated mechanisms.⁹ In this spirit, a review of our own results (Table 1), shows a high utilization rate of multiple arterial grafts in patients of both genders and is independent of surgeon gender. Thus disparities in gender based MABG utilization can be mitigated by experienced male and female surgeons. Whether this will effectively narrow the gap in clinically meaningful outcomes warrants further investigation.

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