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Commentary: Tiered referral network for endocarditis: Will it improve surgical outcomes?

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Squires and colleagues¹ present analysis of 513 patients undergoing surgery for infective endocarditis (IE) at 8 hospitals. The authors conclude that patients undergoing valve surgery for IE are at increased risk for operative mortality at primary valve centers as compared with comprehensive valve centers (Figure 1) and that referral or transfer of patients with IE and surgical indications to comprehensive valve centers should be considered.

This paper may be the first to evaluate the recent guidelines² proposing a tiered system of comprehensive versus primary valve centers. This retrospective analysis does tend to support the hypothesis that a tiered system could potentially improve outcomes from patients undergoing surgery for acute endocarditis. The presented data do show that comprehensive valve centers did have better operative mortality and patient survival than did primary valve centers. However, as the authors admit, an alternative interpretation of the data might be that endocarditis (like degenerative mitral valve disease or aortic disease) has better surgical outcomes at greater-volume hospitals. Referral networks have been proposed for degenerative mitral valve disease, aortic disease, congenital heart disease, and other disease processes that are less common in the community as a whole. Whether endocarditis is different from other less common medical diseases that can benefit from volume and experience is not clear. It has been shown that, in general, the mortality benefit of hospital volume is greatest in

Survival of endocarditis patients at comprehensive (CVC) vs primary (PVC) valve centers.

CENTRAL MESSAGE

While data support referral or transfer of patients with surgical endocarditis to comprehensive valve centers, further investigation is needed to actually demonstrate practicality and efficacy.

low-volume and high-complexity procedures.³ Other studies have specifically shown a link between hospital volume and operative mortality for endocarditis.⁴

This paper has several limitations. First, this study does not address the many issues involved with implementation of such recommendations. Potential barriers to the triage of patients with endocarditis can include geographic distances, patient refusal to transfer, enforcement, and economic impact on both comprehensive and primary hospitals and staff. Second, this paper admits that it does not validate the criteria proposed for comprehensive versus primary valve centers. The 2 comprehensive centers chosen in the study may in fact differ from primary centers in many characteristics, such as simple size, volume, and seniority of staff beyond expertise in endocarditis surgery. Third, this paper does not in fact demonstrate that the implementation of recent guideline recommendations² would indeed improve outcomes.

While these data are not definitive, they may be among the first to specifically address recent guidelines recommending a tiered system of comprehensive versus primary valve centers for treatment of acute endocarditis.² This reasonably sized series does support a tiered referral network for surgical endocarditis. However, further investigation is needed to actually demonstrate practicality and efficacy.

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FIGURE 1. Survival curves for matched patients undergoing surgery for active endocarditis at comprehensive valve centers (CVC; blue line) versus primary valve centers (PVC; red line). HR, Hazard ratio; 95% CI, 95% confidence interval.

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