Invasiveness of left- and right-sided infective endocarditis: Does pressure explain pathology?

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Does chamber pressure explain right- and left-sided infective endocarditis invasiveness?

Central Message

Further research is required to help us understand the processes underlying the progression of both right- and left-sided infective endocarditis to optimize clinical management of this patient group.

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Infective endocarditis (IE) is a serious condition associated with high mortality. Studies[1,2] and guidelines[3] have helped clinicians identify and manage patients with IE. Left- and right-sided disease variants have long been believed to represent 2 separate clinical identifies, but the reasons for each remain poorly understood.

Right-sided IE is rare in comparison with left-sided disease,[4] accounting for only 5% to 10% of cases. The invasive nature of left-sided disease has been previously reported[5]; however, there is little to be found in the literature comparing right- and left-sided disease and contrasting their propensities toward local invasion. Hussain and colleagues[6] are to be congratulated for their report in this issue of the *Journal* of their experience with right-sided IE and their attempts to put forward hypotheses to explain the contrasting clinical findings observed.

In their article, Hussain and colleagues[6] hypothesized the potential pathogenesis underlying the higher incidence of invasiveness of left-sided IE that is seen when comparing it with right-sided disease. They performed a retrospective observational study of 1292 patients who underwent surgery for IE and analyzed the ''invasiveness'' of the disease, as assessed by operative and echocardiographic findings. They found that only 0.72% of cases of right-sided IE were invasive, compared with 65% of aortic valve IE, 31% of mitral valve IE, and 67% of combined aortic and mitral valve IE. Hussain and colleagues[6] conclude that ''invasion and development of cavities/'abscesses' in patients with IE may be driven more by chamber pressure than organism.''

It should be noted, however, that a number of factors limit the conclusions that can be drawn from these observations, many of which are noted by Hussain and colleagues[6] themselves. For example, there is a lack of information regarding times between onset of symptoms, diagnosis, and intervention, which may inform the potential relationship between duration of IE (untreated) and invasiveness. Also, importantly, no information is offered regarding the associations between native aortic pathology (eg, the presence of a bicuspid aortic valve or rheumatic heart disease) and baseline characteristics (eg, age, renal function, or sex) and invasiveness.

Further research is required, both clinical and experimental, to help us understand the processes underlying the progression of both right- and left-sided IE if we are to optimize the clinical management of this patient group.

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