7. Clinical bottom line

TV insufficiency should be treated during left-sided valve surgery when TR annulus is dilated ($> 21$ mm$^2$; $> 70$ mm$^2$ intra-operatively; $> 3.5$ cm at trans-thoracic echocardiography (TTE) [18]) regardless of the absolute grade of regurgitation, in cases of preoperative AF, trans-tricuspid PMK lead and underlying rheumatic disease. Also, ‘ring’ annuloplasty techniques should be preferred over the ‘non-ring’ techniques.

References


eComment: Which functional tricuspid regurgitation should be surgically corrected?

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We thank Giacomo Bianchi and associates for their actual report [1].

Tricuspid regurgitation (TR) is common in patients with left-sided heart disease. It is well known that moderate or more functional TR should be repaired. Many investigators have recommended surgical treatment from moderate to severe TR and assumed that a mild degree of functional TR could be expected to diminish after surgical relief of left-sided valve pathology. But, correction of left-sided valvular disease does not automatically correct TR. Treatment of the mitral lesion alone only decreases the afterload. Neither does it correct tricuspid dilation nor does it affect preload or right ventricular (RV) function [2]. Dilatation of the tricuspid annulus is progressive and may not be accompanied by TR initially, but eventually leads to it.

The normal tricuspid valve (TV) annulus is saddle-shaped. It is known that with functional TR the annulus becomes larger, more planar, and circular. The flattening of the TV annulus that occurs with TR can potentially alter the normal papillary muscle-to-leaflet and annulus relationship. With flattening of the annulus, the low points of the annulus may be stretched away from the papillary muscles, thereby increasing tethering.

The tricuspid annulus is a component of both the TV and the right ventricle [2]. Ton-Nu et al. [3] suggest that it is not the RV pressure load or left-sided heart disease that influences the annular remodeling changes observed with functional TR. It is the RV dysfunction and dilation that affect those annular remodeling changes. As suggested by Ton-Nu et al. [3] the RV dysfunction and TR are indeed linked, perhaps through the mechanism of annular shape. Possibly, the tricuspid annulus can be thought of as the “gear” that modulates the effects of the RV remodeling on TV function.

Dreyfus et al. [2] demonstrated that the decision to perform tricuspid annuloplasty based on tricuspid annular dilation rather than on the degree of TR at the time of surgery resulted in improved long-term outcome. In our opinion, as the tricuspid annular dilatation seems to be the underlying mechanism regarding non-organic TR, it may be a more reliable indicator for TV pathology compared with TR [2].

We agree with the authors of this report [1] that TV insufficiency should be treated during left-sided valve surgery when the tricuspid annulus is dilated, regardless of the absolute grade of regurgitation.

References