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IMAGES IN CARDIOLOGY

doi: 10.1136/hrt.2006.089615

New insight into the tricuspid valve in Ebstein anomaly using three-dimensional echocardiography

A 15-year-old male presented in New York Heart Association functional class II. Cardiac auscultation found 3/6 holosystolic murmur. A chest x ray showed increased cardiothoracic index to 0.65. Two-dimensional echocardiography found severe tricuspid regurgitation with septal attachment. Mechanism of the tricuspid regurgitation as well as mobility of the tricuspid leaflets were difficult to comprehend from the two-dimensional images. Real time three-dimensional echocardiography allowed precise description of the Ebstein anomaly (to view video footage visit the *Heart* website—<http://www.heartjnl.com/supplemental>). The patient underwent valve replacement with pericardial bioprosthesis. The surgeon confirmed the three-dimensional findings.

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To view video footage visit the
Heart website—<http://www.heartjnl.com/supplemental>

doi: 10.1136/hrt.2006.087718

Endothelialisation of an autologous pericardial valve implanted in the aortic position

The use of biological tissue valves has become more common owing to the side effects associated with mechanical prosthetic valves. We present the case of endothelialisation of an autologous pericardial valve implanted in the aortic position for a decade.

A 76-year-old man had undergone an aortic valve replacement in 1996 with an autologous pericardial bioprosthesis (Autogenics). He presented with a recent history of increasing shortness of breath on exertion, and clinical signs of significant aortic regurgitation. Transoesophageal echocardiography confirmed moderate aortic regurgitation, with two jets, the largest of which extended along the septum. At re-do aortic valve replacement, inspection of the bioprosthesis demonstrated a tear at the junction between the left and non-coronary cusp (upper panel). Following explantation, the valve was sent for histological analysis, to reveal full endothelialisation of the autologous parietal pericardium (lower panel). This case demonstrates the ability of endothelial cells to migrate and colonise autologous pericardium, thereby allowing the pericardium to attain functional integration, and reduce unwanted haemodynamic side effects.

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