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Case report (includes case series that include 5 or fewer patients)

Title: Transcatheter tricuspid valve replacement in a symptomatic bioprosthetic tricuspid stenosis patient with carcinoid heart disease: A case report

Description:

Background: Patients with carcinoid heart disease are prone to the development of mild to severe tricuspid regurgitation with or without accompanying tricuspid stenosis. Isolated tricuspid valve surgery to this date continues to have high mortality rates. We present an interesting case of a patient with bioprosthetic tricuspid valve stenosis secondary to carcinoid heart disease undergoing transcatheter tricuspid valve replacement (TTVR).

Case history: The patient is a 64-year-old female with metastatic carcinoid syndrome first diagnosed in 2008, subsequent tricuspid valve replacement in 2009 with 25 mm Magna ease bovine pericardial valve. The surgery was complicated by carcinoid crisis, and complete heart block requiring pacemaker placement at that time. For the last year, patient has been having worsening shortness of breath with exertion. Repeat echocardiography revealed severe tricuspid stenosis associated with a severely dilated right atrium, moderate pulmonary stenosis. Transesophageal echocardiography confirmed carcinoid degeneration of the bioprosthetic tricuspid valve. CT chest and abdomen with contrast showed metastatic carcinoid tumor with new foci in liver, lungs. Ischemic evaluation revealed normal coronaries.

Decision making: The patient was evaluated by the heart team and was considered to be a prohibitive risk patient for redo surgery. We then evaluated her suitability for transcatheter valve replacement, and the patient was felt suitable for undergoing valve-in-valve transcatheter tricuspid valve replacement via the right internal jugular vein approach because of the coaxial alignment of the valve through this route. The patient successfully underwent this procedure with a 26 mm balloon-expandable valve without any complications and is currently in NYHA class I functional status.

Conclusion: Carcinoid syndrome can affect bioprosthetic tricuspid valves and transcatheter valve replacement may be advantageous in replacing the affected bioprosthetic valves by reducing morbidity and mortality.