

Valve surgery in carcinoid heart disease: A single-center 30-year experience and clinical results in the recent era

Anders Albåge¹, Marco Montibello¹, Rickard Lindblom¹, Ulrica Alström¹, Anders Holmström¹, Johan Forsblad², Johannes Bergsten², Frank Flachskampf², Staffan Welin³

¹ Thoraxkirurgi och Anestesi, Akademiska sjukhuset, Uppsala

² Kardiologi och Klinisk Fysiologi, Akademiska sjukhuset, Uppsala

³ Endokrin Onkologi, Akademiska sjukhuset, Uppsala

Background

Carcinoid heart disease (CHD) involves deterioration of the right-sided heart valves due to excessive hormonal secretion from metastasized neuroendocrine tumours. Replacement of the tricuspid (TV) and pulmonary (PV) valves result in reduced heart failure symptoms, functional improvement and prolonged survival. The aim was to describe our 30+ years of experience and recent results with this type of surgery.

Material and methods

From 1986-2022, 73 patients (34 women, 39 men, mean age 62,4), underwent valve surgery for CHD at our institution, of whom 28 were operated since 2016. All patients had TV involvement with right heart failure. Additionally, 58 patients had PV disease and 5 patients had left sided valves affected. Overall survival data were analyzed retrospectively and clinical results recorded for patients operated since 2016.

Results

All patients underwent bioprosthetic TV replacement (TVR), while 53 patients had additional PV replacement (PVR) or PV commissurotomy (n=5). Three patients had 3 valves operated and 2 patients underwent quadruple valve replacement. In analyzing the first 60 patients, 30-day mortality was 12%, and median overall survival 2,2 years. Survival at 1,5 and 10 years was 60%, 30% and 12%, respectively. Maximum survival was 21 years. Patients undergoing combined TVR and PVR had significantly higher survival compared to operations without PVR. In the recent era, complications were relatively few and 30 day mortality decreased to 7%. Late mortality was substantial, mainly due to tumour progression. One patient was reoperated due to prosthetic valve endocarditis and 2 patients underwent percutaneous valve-in-valve replacement due to structural valve deterioration.

Conclusions

Patients with CHD are complex and frail, and optimal care requires a multidisciplinary approach. Valve surgery in CHD is palliative and has an acceptable perioperative risk. The threshold for performing PVR in addition to TVR should be low. Quadruple valve replacement is feasible in highly selected patients.