Tricuspid valve replacement is an unfavourable operation

Reference


Letter to the Editor

Tricuspid valve replacement is an unfavourable operation

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I read with interest the article by Sung and colleagues about tricuspid valve replacement [1]. I agree with the authors that their reported results, although better than others, are still unsatisfactory. I think tricuspid valve replacement is an unfavourable surgery rather than catastrophic. The most important question in these operations is when to replace and not to repair the tricuspid valve. The surgeon has to decide intra-operatively, based on the valve pathology, that the best tricuspid repair technique will produce worse results than replacement. This is applicable in a very small sector of those patients where the tricuspid valve is heavily diseased and the anterior leaflet with its chordae are fibrosed and retracted to the degree that cannot fill an acceptable or adequate valve area. In the old days, severe tricuspid endocarditis with large multiple vegetations were treated with valvectomy, which was well tolerated by patients with mild to moderate pulmonary hypertension. Sung and colleagues clearly demonstrated that cardiopulmonary bypass is a major risk factor in those patients. Most of their procedures were done on an arrested heart and they preferred mechanical prostheses. Cardiac surgeons in the Third World countries are faced with a large number of patients with severe and symptomatic tricuspid regurgitation; most of those patients are usually poor and live in remote areas. Cost containment is now an important issue everywhere and valve replacement implies a major increase in the cost of the procedure and the added cost of complications. Chang and colleagues [2] reported excellent results using autologous pericardial strip repair, which is the most suitable for our patients. The technique is quite feasible and effective in producing excellent intra- and postoperative results. Among its several advantages, it is ready, available without cost, resists infection and is flexible, allowing growth in the paediatric age group. Our surgical technique is different from that of Sung and colleagues in that we perform the repair, or even tricuspid replacements, on a beating heart, which gives us a better assessment of the tricuspid valve before and after the repair as well as early detection of heart block or arrhythmias. This also helps in shortening the aortic cross-clamp and bypass times, which will reflect positively on the morbidity and mortality results of those critical patients as shown by Sung and colleagues and others [1,3]. The choice of the prostheses is of a major concern. Although there is no survival benefit of either type, in general, bioprostheses are more favourable as it has shown good results in freedom from re-operation and structural deterioration [4].

References


Letter to the Editor

Clinical Treatment for Pulmonary Artery Sarcoma

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Pulmonary artery sarcomas (PASs) are extremely rare and the prognosis for patients with PAS is not favourable. Early diagnosis and surgical resection could offer the chance for...
long-term survival. However, the diagnosis is very difficult and usually delayed or misdiagnosed in most cases.

We read with great interest the manuscript of a case report titled ‘Long-term survival of a pulmonary artery sarcoma produced by aggressive surgical resection and adjuvant chemoradiotherapy’ by Nakahira and his colleagues [1] that was published in the European Journal of Cardio-Thoracic Surgery (2007). They reported that the histological type is epithelioid haemangiendothelioma and that the patient had survived for 56 months without any sign of recurrence. Kim et al. [2] also reported a sample of nine cases of patients with PAS and they achieved satisfactory outcomes of surgical treatment with or without adjuvant therapy (mean 19.2 months, range 1.5—45.4 months). We diagnosed a case of pulmonary artery intimal sarcoma, which was proved by intra-operative frozen section 4 months ago. The sarcoma had extended to the proximal right ventricular outflow tract with invasions to all structures of the pulmonary valve, pulmonary artery trunk and distally beyond the pulmonary artery bifurcation, nearly blocking the whole left pulmonary artery. We extracted the tumour as completely as possible and enlarged the right ventricular outflow by allograft pericardium. At a follow-up of 3 months, computed tomography angiography (CTA) indicated to a local recurrence of the sarcoma. But the patient did not report of being unwell.

According to Kruger and colleagues [3], the mean survival time of PAS without surgery was 1.5 months; surgical intervention could prolong the survival time to 10 months. Some medical centres have reported excellent outcomes of PAS therapy. However, there is still no consensus on therapeutic modalities (surgical methods: adjuvant therapy) for PAS. Why do some medical centres choose chemotherapy, while others opt for radiotherapy or both? Is it because of their guidelines or evidences? In some cases, heart–lung transplantation might be another option. Nevertheless, this could show poor survival outcomes because of the development of recurrences and new occurrence of carcinomas due to long-term administration of immunosuppressive drugs. We think that multidisciplinary methods might be more useful in achieving long-term survival; however, formulating guidelines is still a long way to go.

References


Reply to the Letter to the Editor

Reply to Lu et al.

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We thank Dr Lu et al. [1] for their interest and comments on our article [2], regarding the treatment strategy of pulmonary artery sarcoma (PAS). Adjuvant chemotherapy and radiotherapy have recently been adopted with an expectation to improve the outcome of patients with PAS. However, the standard guideline of chemotherapy and radiotherapy for PAS is currently difficult to be established mostly due to the rarity of PAS and the complexity of the various histological types of PAS. With regard to chemotherapeutic agents, the combination of several agents appears to be more effective than single-agent therapy according to most reports, although the response to chemotherapy largely depends on the tissue type and the extent of resection. Blackmon et al. [3] demonstrated that aggressive resection with a curative intent and multimodal treatment improved the outcome of PAS and recommended neo-adjuvant chemotherapy of adriamycin and ifosfamide to patients who were preoperatively stable. With regard to cardiac sarcoma, including PAS, Bakaen et al. [4] reported that multimodal treatment available in recent years could achieve reasonable survival and the most common drugs used as adjuvant therapy were doxorubicin, ifosfamide, gemcitabine and taxotere, in their experience.

Early diagnosis of PAS is essential for any hope for survival, but difficult due to the rarity of the disease, the insidious growth of the tumour and the non-specific clinical and radiological manifestations, which also resemble pulmonary thrombo-embolic disease. The typical duration between the initial symptoms and the diagnosis was reported to be 3—12 months [3]. Radiological information with computed tomography (CT) and gadolinium-enhanced magnetic resonance imaging (MRI) is helpful to achieve the diagnosis of PAS. Yi et al. [5] demonstrated the characteristic CT findings of PAS in comparison with pulmonary thrombo-embolic disease. Gadolinium-enhanced MRI can differentiate PAS vascularised with the enhancement of gadolinium contrast from bland thrombus.

In the surgical resection, surgeons should be ready for the further progression of PAS as compared to that shown on the radiological findings owing to the rapid and intramural growth behaviour of PAS. With respect to the surgical technique, extended resection with homograft replacement of the right ventricular outflow and the pulmonary artery branches seems to be a practicable technique in most cases to aim at complete resection [2], because PAS originates from