

CLINICAL EXPERIENCE WITH THE SHELHIGH AORTIC VALVE CONDUIT.

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Objectives The Shelhigh aortic valve conduit is stentless and consists of a No-React anticalcification-treated porcine valve mounted in a similarly treated bovine pericardial tube, rendering it some characteristics similar to the aortic homograft. We present our early experience with this completely biological valved conduit.

Material and methods Between October 2001 and November 2005, the Shelhigh conduit was used in 42 patients with a mean age of 66 years (range 33-82). Twentyone patients had annuloaortic ectasia, 11 aortic stenosis/ ascending aortic aneurysm and 10 aortic valve/prosthesis endocarditis. Seven patients had previously undergone cardiac surgery. Follow-up included a patient questionnaire and was performed after a median of 25 months (range 6-55 months).

Results 24 patients were operated with the conduit alone; another 18 had combined procedures including CABG, mitral valve plasty and more extensive aortic replacement. The 30-day mortality was 2.3% (one patient expiring peroperatively). Four patients died after 5, 7, 15 and 18 months from non-conduit related causes. There were no late reoperations. Control echocardiography showed freedom from valve insufficiency and low transvalvular gradients.

One patient had onset of atrial fibrillation postoperatively and was anticoagulated with warfarin. Patients with stable sinus rhythm were treated with anti-platelet drugs postoperatively, in some cases the treatment was terminated after 3 months. From the questionnaire, improvement with a least one NYHA functional class was obvious in 25 patients; six patients were preoperatively symptom-free and could not improve further. Six patients did not reply. 33 of the surviving patients (80%) were content with the operative result. One patient operated for endocarditis showed recurrence of aortic root expansion but had no positive cultures. The expansion resolved with antibiotics. All other surviving patients operated for endocarditis had a good healing of the infection.

Conclusions This limited study with a short term follow up showed promising results in a heterogenic group of patients undergoing aortic root replacement. In general, the surgical handling of the conduit was easy, facilitating complex repairs. The design of the conduit includes good hemostatic properties. However the lack of longer follow up necessitates strict indications for its use.