others have reported recurrences of valve thrombosis in a fifth of patients initially successfully treated with thrombolysis and only about half of these recurrent thromboses can be successfully treated with further thrombolysis.[4]

In some patients it may be appropriate to use thrombolysis as a means of rendering a patient fit enough to undergo re-do surgery. In retrospect, this may have been a more appropriate management for our patient whose subsequent death, after initially successful thrombolytic treatment, *may* have been related to embolisation of persistent left atrial thrombus.

In critically ill patients who have had thrombosed prosthetic valves, we suggest that repeated transoesophageal echocardiography may be of great value in identifying patients with a low risk (no evidence of residual thrombus) or a high risk (evidence of residual thrombus, not necessarily directly related to the valve prosthesis, as in the reported case) of recurrent valve thrombosis. This will aid decisions about the need for further surgery.

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ABSTRACTS IN CARDIOLOGY

Thrombolysis for thrombosed prosthetic valves

Thrombosis of a mechanical prosthesis is generally regarded as a surgical emergency because of the acute low output state which results. The case report from Currie *et al* (see above) shows that intravenous thrombolytic therapy can restore adequate function of the prosthesis.

Earlier this year Silber *et al* reported a prospective study from March 1978–December 1991 in which they used thrombolysis as the initial treatment in 12 out of 17 patients with a thrombosed St Jude valve. They used a combination of fluoroscopy and echocardiographic and Doppler studies to monitor the efficacy of the treatment. Two patients were treated with heparin, two with streptokinase, and the other eight with urokinase.

Surgery clearly still has a role: five patients in the series were managed with an operation rather than thrombolytic therapy.

Intriguingly, the case report from Currie *et al* raises the question whether elective surgery to remove persisting thrombus should be considered even when prosthetic function has been restored to normal by thrombolysis.

PETER MILLS

The St Jude valve: thrombolysis as the first line of therapy for cardiac valve thrombosis

Haim Silber, Steven S Khan, Jack M Matloff, Aurelio Chaux, Michele DeRobertis, Richard Gray

Abstract

***Background*—**Thrombolytic therapy is a promising alternative to valve replacement in the management of prosthetic valve thrombosis. We sought to determine the short- and long-term results of treating thrombosed St Jude heart valves with thrombolytic therapy as the primary treatment modality.

***Methods and results*—**Between March 1978 and December 1991, 988 patients underwent implantation of St Jude prosthetic valves at our medical centre, and all patients with thrombosed valves were identified prospectively. During this period, 17 patients (13 women; mean age 66·8 ± 19·0 years) developed prosthetic valve thrombosis (11 aortic, six mitral). In six patients, Coumadin was stopped in preparation for elective surgery. The clinical presentation was congestive heart failure in 13, syncope and fatigue in two, and a cerebrovascular accident in one; one patient was asymptomatic. The average duration of symptoms was 11·7 ± 12·0 days (range 1–45 days). Anticoagulation was subtherapeutic in all but one patient at the time of presentation. Cinefluoroscopy was the primary method used for diagnosis and was also used to follow the response to therapy. Twelve patients were treated medically (10 with thrombolytic therapy and two with heparin), three were treated surgically, and two were diagnosed at autopsy. Of the 12 medically treated patients, 10 had marked improvement in leaflet movement and symptoms within 12 hours. Thus, 10 of 12 patients (83%) had a satisfactory response to medical therapy alone. No medically treated patient died or had a major complication resulting in permanent damage. However, four of the 12 medically treated patients had minor complications, including a transient episode of facial weakness in one patient, hematomas in two, and epistaxis in one. Late rethrombosis recurred in two patients in the medically treated group and was successfully retreated with thrombolytic therapy. At 3 months, all patients were alive and well.

***Conclusions*—**Thrombolytic therapy can be used as the first line of therapy for thrombosed St Jude valves with a low risk of permanent side effects and excellent changes of success. In most cases, surgery can be reserved for patients who did not respond to thrombolytic therapy. (*Circulation* 1993;87:30–37.)