Surgical treatment for incessant pericarditis

Susy S Hota MD FRCPC, ChiMing Chow MD MSc FRCP,
Daniel Bonneau MD FRCSC, Robert J Chisholm MD FRCPC

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A case of chronic relapsing pericarditis is presented in which all forms of medical therapy failed. Pericardectomy was performed as a last resort, with complete resolution of symptoms. Incessant pericarditis, as distinguished from recurrent intermittent pericarditis, may respond favourably to surgical removal, especially in the presence of recurrent pericardial effusion.

Key Word: *Pericarditis*

Chronic relapsing pericarditis can present a therapeutic challenge. In cases that fail to respond to medical therapy, surgical excision of the pericardium would seem to be an obvious option, but experience is limited and success variable. We present a case in which the surgical approach proved extremely successful, and provide a hypothesis as to why.

CASE PRESENTATION

A 29-year-old man presented in June 2002 with recurrent pericarditis. In January 2000, he suffered a fractured femur as a result of a snowmobile accident. This was complicated by fat emboli. The patient recovered nicely and returned to his usual activities, but in March 2001, he presented with cough, fever and chest pain. A diagnosis of pneumonia was made and antibiotics were administered. The patient's symptoms lingered and one month later, he presented with sudden-onset acute pleuritic pain. The electrocardiogram was nonspecific but cardiac ultrasound revealed a pericardial effusion measuring 27 mm. Prednisone was administered at a dose of 60 mg/day.

During the next year, frequent attempts were made to reduce the dose of prednisone, but with each reduction to doses of 10 mg or less, pain recurred. Fluctuations in pericardial fluid were observed. Eleven attempts were made to reduce the steroid dose, each associated with recurrence of pain. Due to a lack of response to chronic steroid therapy, he was referred for a second opinion.

The patient was reviewed in June 2002, two months after his last exacerbation of pain. He was quite comfortable but remarkably cushingoid, with 'moon facies', central obesity, a 'buffalo hump' and abdominal striae. His blood pressure was 130/60 mmHg. The heart sounds were normal with no pericardial rub and no evidence of constriction. His echocardiography was normal. It was elected to taper the steroids once again but institute a concomitant course of colchicine, 0.6 mg per day. He was discharged home but, two months later, he redeveloped his chest pain as well as a recurrent pericardial effusion. Indomethacin was added but, unfortunately, severe gastritis developed.

Le traitement chirurgical de la péricardite incessante

Un cas de péricardite récidivante chronique est présenté dans lequel toutes les formes de médication ont échoué. Une péricardectomie a été effectuée en dernier recours et a entraîné la résolution complète des symptômes. La péricardite incessante, différente de la péricardite intermittente récurrente, peut répondre favorablement à une résection chirurgicale, surtout en présence d'effusion péricardique récurrente.

Colchicine and indomethacin were discontinued, chest pain recurred, prednisone was restarted at 30 mg/day and a second referral was made.

His erythrocyte sedimentation rate was 3 mm/h in June 2002, but rose to 67 mm/h in November during the recurrence. Viral serology, antinuclear antibodies, rheumatoid factor, complements, antineutrophil cytoplasmic antibodies and antitreptolysin O titre were negative. Computed tomography of the thorax demonstrated thin enhancement of the pericardium, indicating inflammation, an eccentric pericardial effusion and reactive mediastinal lymphadenopathy. A Mantoux test performed before steroid administration was negative.

A recommendation of pericardectomy was made. Pericardial stripping was performed successfully on November 22, 2002. The surgeon noted that the pericardium was thickened (approximately 7 mm) and inflamed. Pathology revealed chronic inflammation, granulation tissue, fibrin deposition and fibrosis.

Postoperatively, the patient did well. His steroids were gradually tapered over the ensuing eight months. His follow-up echocardiography at one year demonstrated normal cardiac chambers, no effusion and residual pericardium over the right atrium. Clinically, he has been off steroids for 42 months without recurrence.

DISCUSSION

Chronic relapsing pericarditis can be classified as either 'incessant pericarditis' or 'intermittent pericarditis' (1,2). The former is characterized by exacerbations that occur within six weeks of tapering therapy, as in our case, while 'intermittent pericarditis' is applied to cases in which exacerbations occur after significant intervals of time have elapsed since therapy was discontinued. It is estimated that 15% to 32% of acute pericarditis will be complicated by recurrent episodes. It is unclear what percentage of patients develop the incessant syndrome.

High-dose nonsteroidal anti-inflammatory drugs (NSAIDs) are the mainstay of therapy for both the initial and recurrent episodes of pericarditis. If unsatisfactory results are achieved, it is recommended that

Divisions of Cardiology and Cardiovascular Surgery, Terrence Donnelly Heart Centre, St Michael's Hospital, University of Toronto, Toronto, Ontario

Correspondence: Dr Robert J Chisholm, University of Toronto, 30 Bond Street, Toronto, Ontario M5B 1W8. Telephone 416-864-5490,

fax 416-864-5478, e-mail chisholmr@smh.toronto.on.ca

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the dose be increased or an alternative NSAID be administered. In the event of NSAID failure, the addition of colchicine has been effective. High-dose prednisone (1 mg/kg/day to 1.5 mg/kg/day) is recommended as the next line of therapy. Premature administration of steroids may increase the likelihood of recurrence. All three levels of medical therapy failed in our patient.

The reports of surgical removal of the pericardium for treatment of recurrent pericarditis have been scant and the results variable. Tuna and Danielson (3) report that "85% have immediate freedom from further attack", but details of their patient population are sparse.

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Fowler and Harbin (4) reported that only two of nine patients treated surgically had "clear improvement". In a recent editorial, Shabetai (5) suggested caution in recommending surgery for these patients, and stated that the ability to predict an outcome after surgery "would be a notable advance".

Our case demonstrates an unequivocal benefit from pericardectomy and supports the hypothesis of Soler-Soler et al (2) that patients with 'incessant pericarditis' associated with recurrent pericardial effusions are more likely to benefit from a surgical approach than patients with less severe manifestations of recurrence.