ETIOLOGICAL SURVEY IN 112 PATIENTS WITH PERICARDIAL DISEASE: A RETROSPECTIVE STUDY

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Abstract—This work is a retrospective study of 112 patients who had undergone pericardectomy in Imam-Khomeini Hospital, in 1983-1994. The patients were categorized into groups A and B. There were 48 patients in group A whose etiology was known before operation, such as uremia, infection, and malignancy. Group B consisted of 64 patients. The cause of pericardial disease could not be ascertained in group B and therefore, constrictive pericarditis prompted us to perform pericardectomy. Pathologic findings of pericarditis were attributed to tuberculosis only in 6 (9.4%) of the cases in group B. Acta Medica Iranica 33(5&6): 100-102; 1995.

Key words: constrictive pericarditis

INTRODUCTION

Pericardium as an anatomical entity has been mentioned and described since the time of Hippocrates. Controversies, however, exist regarding management of the disease. In this study the emphasis was to etiologically demarcate pericarditis specially the chronic constrictive pericarditis (CP) (1) which is the tragic end to a chronic inflammation. The process culminates in fibrosis and in thickened pericardium surrounding the heart. This process results in limiting of diastolic ventricular filling and cardiac output (2,3). In the majority of patients, the cause of constrictive pericarditis is unknown. Previously, tuberculosis was known to be the leading cause (4), but almost any infectious process may initiate dense pericardial scarring (5,6,7). A definitive surgical approach is imperative in managing cases of CP.

MATERIALS AND METHODS

Between 1983 and 1994 a total of 112 patients (60 male and 52 female), underwent pericardectomy. The age range was 7 to 69 years. The patients were categorized into groups A and B. Group A consisted of 48 patients with established etiology before the scheduled operation. Group B comprising 64 patients with CP in whom the etiology could not be confirmed before operation.

Postoperatively, the pericardium specimen were studied by a pathologist. Among the group B patients only 9.4% had granulomatous reaction in the pericardium and 6% had necrotizing granulomatous reaction. All the patients in this group had received antituberculosis treatment for two weeks prior to operation and only patients with granulomatous reaction of the pericardium had to complete the full treatment of tuberculosis postoperatively.

Management of two patients with purulent bacterial pericarditis was systemic antibiotic therapy and tube drainage of the pericardium by irrigation with 0.5% betadine solution (5,6,7). Two patients with uremic effusive constrictive pericarditis were operated on; a pericardietomy was performed and resection of the pericardium was carried out. In case of pericardial malignancy involvement, TNM staging to surgery was done.

RESULTS

Pericardectomy in purulent pericarditis and uremic effusive constrictive pericarditis had excellent short and long term results (8). In malignant lesions of the pericardium, the mortality rate was 10% and overall survival, less than 2 years.

In group B, mortality rate was 8% and 1 to 10 years follow-up revealed excellent long-term results among survivors. Twenty percent of patients in this group who had symptoms of severe CP lasting 3-4 years or longer, had post-operative complications of greater intensity and a mortality rate that ranged from 20% - 25%. Post-operatively, these patients did show little improvement as far as symptoms or grading of functional class were concerned. Those who had clinical history of CP for 1-2
years had optimal improvement in their functional class and a low mortality rate. The patients who had clinical history of less than 12 months duration, had the best results and the least complications without hospital mortality. Pericardiectomy in patients with CP clinical history was easier as far as surgery was concerned (9).

DISCUSSION

Purulent bacterial pericarditis usually results in constrictive pericarditis quickly once the pericardium is free of bacteria by drainage (10) and irrigation. It is wise to schedule the patient for pericardiectomy, since the operation is technically easier at this stage and has less complication (7).

Tamponade caused by pericardial effusion should not be evacuated with needle aspiration, because fragility of a bleeding can make it hazardous and lead to death due to intrapercardial bleeding (11). As these patients are critically ill, partial pericardiectomy may not be possible, but pleuropericardial window would be a better option. Follow-up of the patients with a history of chest irradiation is necessary because it may result in constrictive pericarditis (12). If constriction and effusion of the pericardium are due to inoperable tumors, and there are hemodynamic disturbances, pleuropericardial window or sometimes partial pericardiectomy are helpful. Invasion of operable tumors of the pericardium can be resectable en-block. Chronic constrictive pericarditis without treatment results in degenerative changes (13,14,15,16) and irreversible damage of the myocardium necessitates operation within one year.

There are several diseases that can cause a granulomatous reaction with or without necrosis (Table 1). It is not wise to treat all the patients in this category with antituberculosis drugs (3,15,16,17,18). This malpractice is common in this country because tuberculosis is endemic.

Table 1. Granulomatous disease of pericardium.

<table>
<thead>
<tr>
<th>Granulomatous without necrosis</th>
<th>Granuloma with minuscule necrosis</th>
<th>Granuloma with caseous necrosis</th>
</tr>
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<tbody>
<tr>
<td>Dacellosis</td>
<td>A typical TB infection</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Rheumatomal nodules</td>
<td>Liquid necrosis</td>
<td>Histoplasmosis</td>
</tr>
<tr>
<td>Tumormasisis</td>
<td>Wegener's disease</td>
<td>Pancreatic tuberculosis</td>
</tr>
<tr>
<td>Whipple disease</td>
<td>Leukemia</td>
<td>Rheumatoid arthritis</td>
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</tbody>
</table>

CONCLUSION

In patients with suppurative pericarditis, it is wise to do pericardiectomy once their suppuration is eliminated by drainage and irrigation, making the surgical technique much more possible and the outcome much better. In patients with tamponade, due to urtic pericardial effusion, needle aspiration is risky, however partial pericardiectomy or establishment of a pleuropericardial window is the management of choice.

In group B, among 48 patients with CP, only 9.4% of them had granulomatous reaction with or without necrosis in the pericardium. Since we could not rule out other causes of granulomatous reaction we continued the complete course of antituberculosis treatment in these patients.

REFERENCES

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