Transient Pericardial Constriction

SR Mittal*

Abstract
A patient with idiopathic pericardial effusion is reported. Patient developed transient constrictive hemodynamics which recovered with continued empirical use of antitubercular drugs and prednisolone.

Case Report

A 24 years female presented with low grade fever, cough and vague chest pain. Clinical examination and ECG were unremarkable. Skiagram of chest revealed mild cardiomegaly. Echocardiography revealed moderate pericardial effusion (Figure 1A and B). There were no clinical or echocardiographic signs of tamponade. Inferior vena cava was normal (Figure 1C) and hepatic vein flow was normal (Figure 1D). ESR was 68mm and Mantoux Test was strongly positive (30mm). Patient did not agree for diagnostic aspiration. Etiology of pericardial effusion was, therefore, not certain. On the basis of strongly positive Montoux Test, she was empirically advised Rifampicin, Isonex, Pyrazinamide, Ethambutal and Prednisolone (30mg OD). Fever, cough and chest pain responded. After 45 days she presented with pain in epigastrium and breathlessness. Pulse rate was 120/min, Jugular venous pressure was 10cm above sternal angle and liver was palpable up to 5 cms below right costal margin. BP was 114/80 mm Hg with inspiratory fall of 6 mm Hg. Repeat echocardiography revealed marked reduction in pericardial effusion but echocardiographic evidence of pericardial constriction- thickened pericardium (Figure 2A), dilatation of inferior vena cava (Figure 2B). Hepatic vein flow revealed increased diastolic forward flow, significant respiratory variation and increased expiratory a wave reversal (Figure 2C). Tissue Doppler imaging showed normal wave pattern (Figure 2D) excluding any possibility of restrictive cardiomyopathy. Antitubercular therapy was continued, steroids were gradually reduced and diuretics (Fruneside + Spiroloactone) was added. Gradually signs of systemic venous congestion disappeared and did not recur after tapering and finally, stopping diuretic and steroids. Repeat echocardiography after six months was normal without any evidence of pericardial constriction. Pericardial thickness was normal (Figure 3A). Inferior vena cava was normal (Figure 3B). Hepatic vein flow (Figure 3C) and tissue Doppler imaging (Figure 3D) were normal. Thus patient had transient pericardial constriction which normalized on continued antitubercular treatment and steroids.

Discussion
As pericardial effusion disappears, inflamed, thickened and noncompliant pericardium results in constrictive hemodynamics.1

*Dept. of Cardiology, St.Francis Hospital, Ajmer
Received: 25.10.2010; Revised: 31.12.2010; Accepted: 02.03.2011
This constrictive phase lasts for 2-3 months and may resolve spontaneously or with antiinflammatory therapy without leaving any residual constriction. Therefore in patients with recent onset non bacterial pericardial effusion there is a reason for use of nonsteroidal antiinflammatory agents (eg. Indomethacin) or even steroids to prevent permanent pericardial constriction. Antiinflammatory therapy is needed for 2-3 months in tapering doses. About 7-15% cases of acute pericarditis may have a transient constrictive phase. This entity is, however, not widely recognized and not mentioned in some standard text books.

Conclusion

Use of nonsteroidal antiinflammatory agents or steroids can prevent development of permanent pericardial constriction in patients with non bacterial pericardial effusion of recent onset.

References