Unilateral breast oedema in a case of non-rheumatic giant left atrium

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Abstract

Giant left atrium (GLA) is a well-described entity in association with rheumatic heart disease. However, mitral valve prolapse is an extremely unusual cause of GLA, especially without the compressive symptoms it can often accompany. We discuss a case of a 78-year-old lady with no prior history of rheumatic heart disease with these findings with the unusual presentation of unilateral breast oedema as a manifestation of heart failure. This case illustrates the investigations and treatment options for GLA and the need for prompt assessment as it increases the risk of sudden death; therefore, its presence warrants careful evaluation and surgical intervention when appropriate.

Keywords: Giant left atrium, unilateral breast oedema, mitral valve prolapse, cardiomegaly

A 78-year-old lady presented with a 4-day history of increasing shortness of breath, a persistent cough, with a reduced exercise tolerance. Past medical history included ischaemic heart disease, atrial fibrillation (AF) and mitral regurgitation secondary to mitral valve prolapse. Examination revealed a pulse of 100/min in AF, elevated JVP, pitting ankle oedema, pansystolic murmur at the apical region and crackles bibasally on auscultation, more in the right side than left. Chest x-ray showed confluent consolidation in the right lower zone with cardiomegaly. She was treated with antibiotics and a high dose of diuretics.

Initially, she improved symptomatically; however, within a week, she was noted to have doubling of the size of the right breast compared to the left. Breast ultrasound revealed diffuse oedema. Mammography showed mixed density parenchymal pattern, diffuse skin thickening with increased stromal marking throughout.

Repeat chest film was performed, which revealed persistent right lower zone consolidation and moderate effusion. CT thorax performed showed massive cardiac enlargement with a giant left atrium (GLA), dilated right atrium and less marked ventricular dilatation (Figure 1). The main pulmonary artery and the SVC were also noted to be dilated. There was also moderate right pleural effusion with partial collapse of the right lower lobe. Marked dilatation of the left atrium was confirmed on echocardiography (diameter measuring 9.5 cm), as well as severe mitral regurgitation secondary to mitral prolapse. After careful discussion with her, she decided against surgery due to her own wishes and her frailty. After prescribing optimal therapy for cardiac failure, she was discharged home where she was conservatively managed.

Discussion

GLA is a reported complication of mitral valve disease secondary to rheumatic heart disease. GLA is the presence of a grossly enlarged atrium; however, its definition varies from one that measures >8 cm to one that touches the lateral side of the chest wall. It is a rare entity in the current era particularly due to the decreased incidence of rheumatic fever [1].

GLA has been reported to cause morbidity by compressing adjacent structures, left recurrent laryngeal nerve compression resulting in hoarseness (Ortner’s syndrome) or oesophageal compression causing dysphagia. Mitral valve prolapse is a rare cause of GLA—reported cases have been associated with Ortner’s syndrome, presenting with hoarseness [2, 3]. AF is commonly found and x-ray findings often show right-sided pleural fluid [4]. The correct diagnosis of left atrial enlargement requires echocardiography or sometimes nuclear angiograms, barium studies, CT or cardiac MRI [5]. GLA increases the risk of sudden death, and its presence in the context of severe mitral valve regurgitation with or without atrial fibrillation is the most common indication for surgical intervention [6]. Patients with compression...
symptoms may be referred for left atrial placation, which has proved beneficial in improving left ventricular function. Partial resection of inferior and or superior left atrial wall is the most common surgical technique. Atrial size is also of prognostic value following successful ablation for patients with persistent AF; therefore, surgical intervention of GLA achieves a good clinical outcome to restore sinus rhythm and improve cardiopulmonary function [6].

Unilateral skin thickening, induration and swelling usually suggest inflammatory breast carcinoma; however, rare cases have presented in congestive heart failure (CHF) [7]. Inflammatory breast cancer is a highly malignant form of breast cancer; therefore, it is important to perform mammography on these patients even if the clinical picture is indicative of CHF. Tumour cell infiltration of the dermal or intramammary lymphatics may cause congestion in breast carcinoma, whereas in CHF the mechanism may be a positional tendency of the patient to lie on one side [8]. In our case, the manifestation of breast oedema was an important sign of worsening CHF, which was successfully treated with high dose diuretics.

References

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