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Case report

Lipomatous hypertrophy of the interatrial septum: indication for surgery?

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Abstract

A fortuitous finding during open heart surgery of lipomatous hypertrophy of the interatrial septum is described in a 65-year old man with ischaemic heart complaints due to coronary artery disease and with premature ventricular contractions. An incision biopsy confirmed the diagnosis. The choice of treatment of lipomatous hypertrophy of the interatrial septum is controversial. Indications for surgery and surgical techniques are discussed. © 1997 Elsevier Science B.V.

Keywords: Lipomatous hypertrophy; Interatrial septum; Arrhythmia; Resection

1. Introduction

Lipomatous hypertrophy of the interatrial septum (LHIS), a nonencapsulated mass of adipose tissue, usually in continuity with the epicardial fat, is a well defined entity [2,3]. Most data is derived from autopsy studies, LHIS diagnosed during life being a rarity [3,7]. Most of the patients with LHIS are over 60 years of age and although most of the patients are asymptomatic, some others experience cardiac rhythm disorders [3,5]. The choice of treatment of LHIS is controversial. We present the case of LHIS, recognized during life and discuss the role of resection as a treatment modality of asymptomatic and symptomatic lipomatous enlargements of the interatrial septum.

2. Case report

A 65-year-old Caucasian male patient was admitted, having New York Heart Association (NYHA) class II angina pectoris. The obese patient had a history of infarction of the anterior wall of the left ventricle, hypercholesterolaemie and 40 years of smoking. Chest X-ray revealed marked cardiomegaly. The electrocardiogram showed a sinus rhythm with premature ventricular contractions. A coronary angiogram showed three vessel disease. Left ventriculography revealed poor contractibility.

A coronary artery bypass grafting was planned. During the venous cannulation procedure, a 'tumour' in the atrial septum was palpated by chance. The mass was not only located in the atrial septum, but extended along the inferior pulmonary vein of the right lung and the free wall of the left and right atrium. Transoesophageal echocardiography (TEE) revealed a bilobed echogenic atrial septum with a thickness of 19.3 mm, consistent with LHIS or lipoma (Fig. 1). Therefore, direct bi-caval cannulation and mode rate sys-

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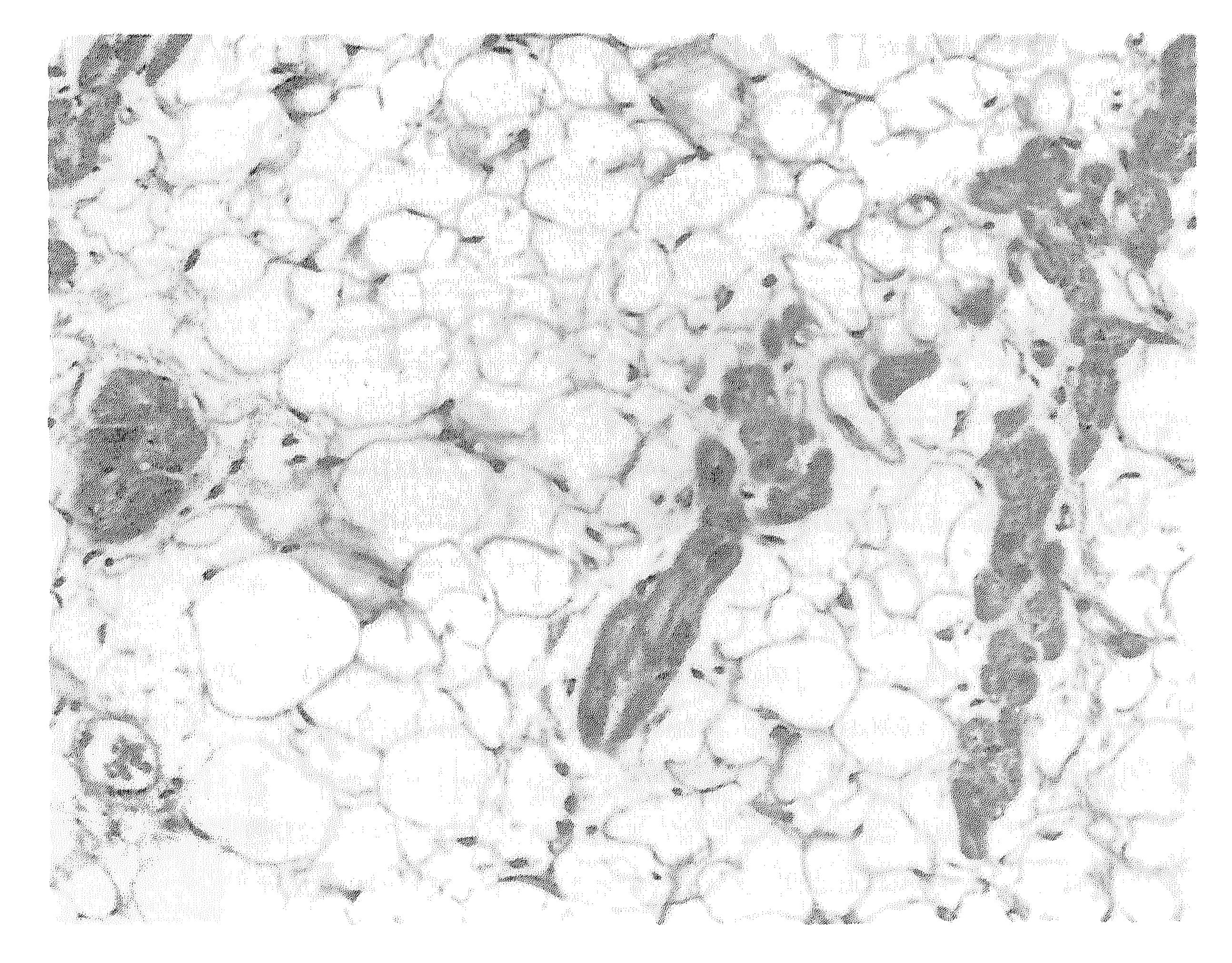


Fig. 2. Microphotograph of the lipomatous hypertrophy of the atrial septum with massive accumulation of mature adipocytes with some variations in size and entrapped solitary cardiac myocytes with signs of atrophy (H.E. stain, × 200).

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LHIS was first described by Prior in 1964 [4]. A review of the literature shows that in most cases LHIS is an incidental finding, but associated complicating factors may be atrial arrhythmias, altered P wave

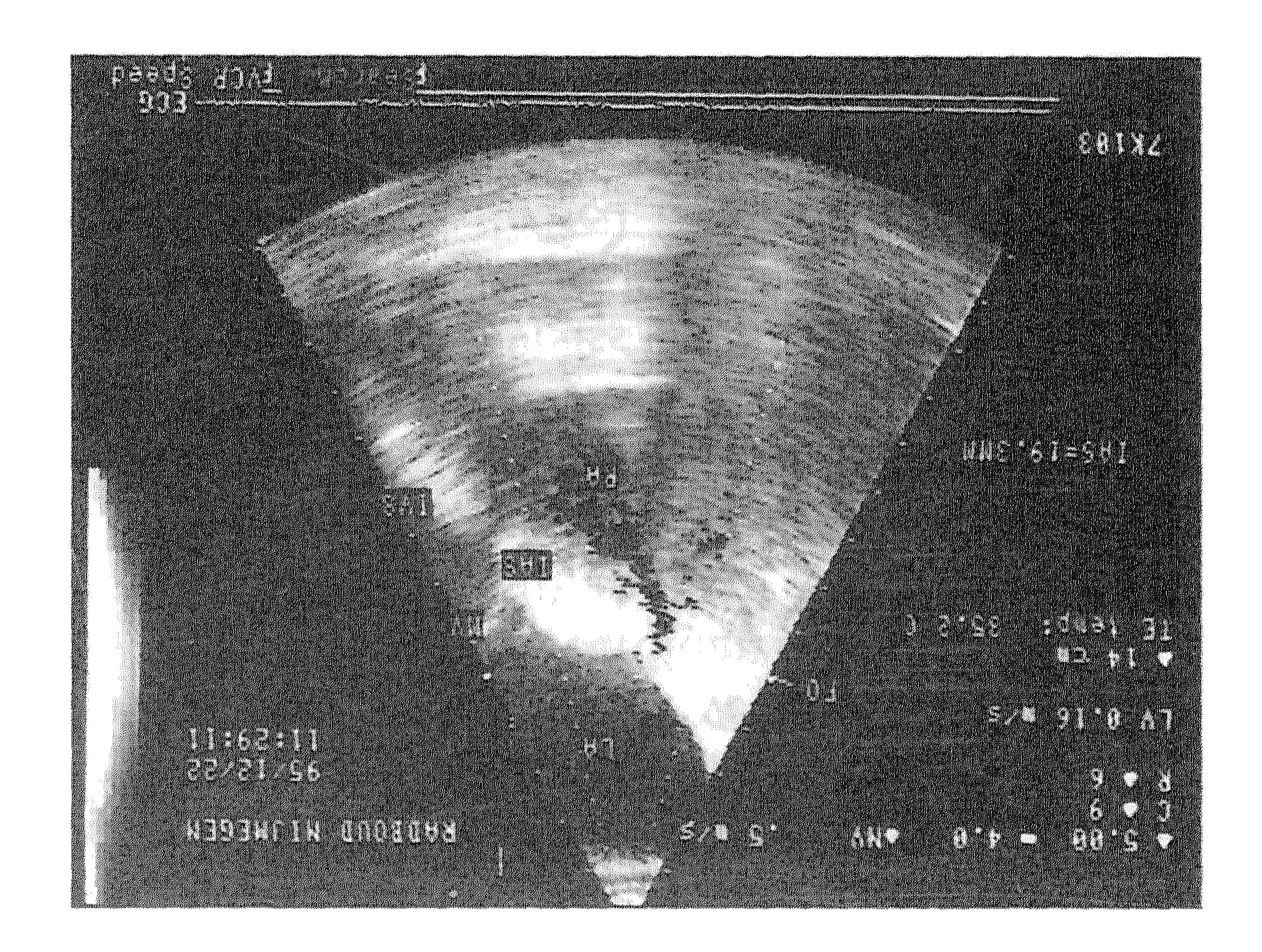


Fig. 1. Transoesophageal echocardiogram revealing an echogenic mass in the atrial septum, with sparing of the fossa ovalis. LA, left atrium; RA, right atrium; IMV, mitral valve; FO, fossa ovalis; IAS, interatrial septum; IVS, interventricular septum.

A tumour palpated in the interatrial septum, extending into the free right atrial wall, has several therapeutic options. If LHIS is complicated by severe rhythm disorders or altered haemodynamic cardiac function, resection may be considered, although it often necessitates major surgery. In the case of a small tumour, the septum may be excised and closed primarily by suture, however small tumours rarely are symptomatic. If it concerns large LHIS, after removal of the tumour including atrial septum, replacement of the septum with a dacron or autologous pericardial patch may be necessary. LHIS extends into the region of the AV node, but most often is located anterior to the foramen ovale. LHIS is usually situated in the area of at least two proposed interatrial conduction pathways (anterior and middle internodal pathways). The interruption of these pathways could be the major reason for rhythm disorders in these patients [6]. Partial or total resection of the interatrial septum probably will not relieve the patient from his rhythm disturbances, not in the least when the AV node region is involved. In that case, the patient may end up with a pacemaker.

To conclude, we consider that a fortuitous finding of lipomatous hypertrophy of the interatrial septum without symptoms, diagnosed by transoesophageal echocardiography pre- or peroperatively, should not be surgically corrected. To confirm the diagnosis, a needle biopsy or incision biopsy during heart surgery can be made. Only in the case of altered hemodynamic function leading to congestive heart failure and severe rhythm disorders, should surgical correction be consid-

ered, depending on the growth and size of the tumour and its relation to the great vessels.

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