

## Case reports

# Transient asymmetric ventricular septal hypertrophy in the newborn unassociated with maternal diabetes

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**SUMMARY** Severe hypertrophy of the interventricular septum was found by echocardiography in a 15 day old infant without symptoms whose mother was not diabetic. The electrocardiogram showed pronounced intraventricular conduction disturbances. Both echocardiographic and electrocardiographic findings showed no abnormality after 27 months, the explanation for which could be the spontaneous regression of an intracardiac rhabdomyoma.

Transient asymmetric ventricular septal hypertrophy may occur in infants of diabetic mothers as a manifestation of hypertrophic cardiomyopathy.<sup>1</sup> The hypertrophy usually resolves within a few months. We found severe hypertrophy of the interventricular septum in an infant whose mother was not diabetic, which disappeared within 27 months. Spontaneous regression of a rhabdomyoma of the heart could explain its disappearance.

### Case report

A baby girl was born at term (birth weight 3400 g) after an uncomplicated pregnancy. Her mother was not diabetic, and there was no familial history of tuberose sclerosis. A heart murmur was heard at 15 days of age. She was asymptomatic, and physical examination was normal except for a grade 1/6 murmur at the left sternal border. Chest x ray films showed slight enlargement of the cardiac shadow, and the pulmonarity was normal. Radiographs of the skull and an electroencephalogram showed no abnormality. There were no other signs indicating tuberose

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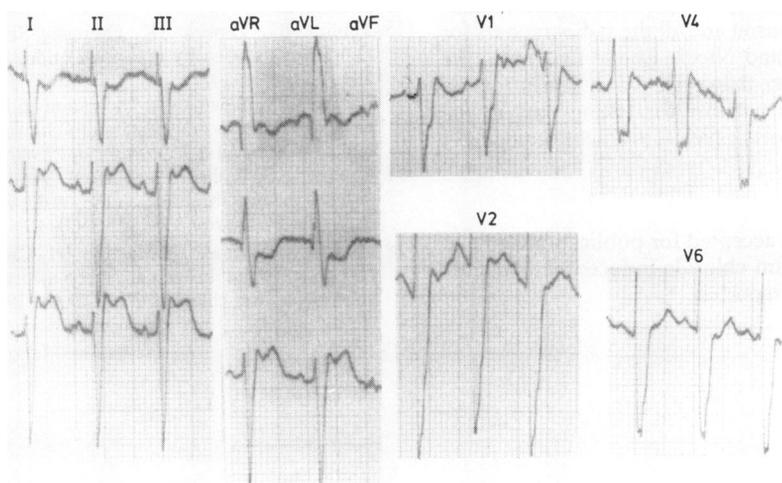


Fig. 1 Electrocardiogram showing normal sinus rhythm with pronounced intraventricular conduction disturbances at 15 days.

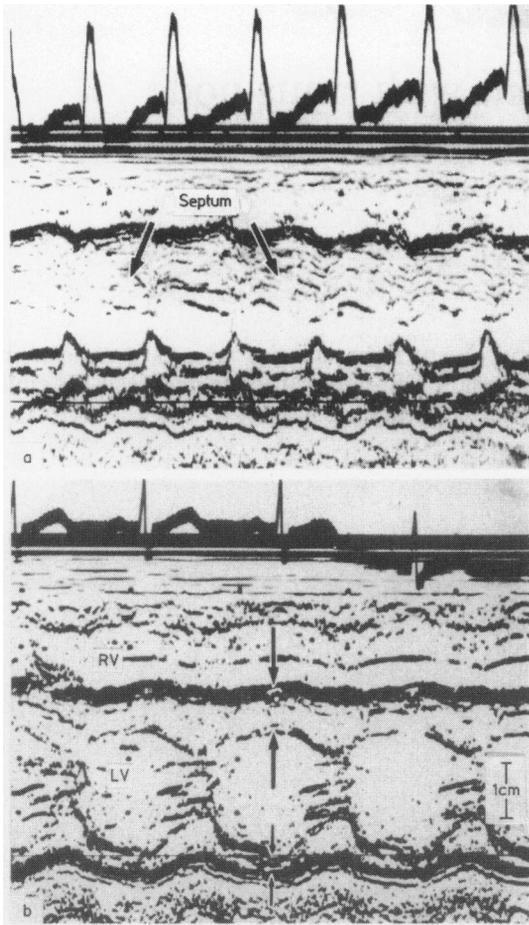


Fig. 2 (a) M mode echocardiogram showing abnormal thickness (11 mm) of the interventricular septum, low flow pattern of the mitral valve, and normal left ventricular posterior wall and left atrium at 15 days. (b) Cross sectional echocardiogram showing normal septal thickness (6 mm) at 27 months.

sclerosis. The electrocardiogram showed sinus rhythm and pronounced intraventricular conduction disturbances (Fig. 1). M mode echocardiography showed an interventricular septum that was disproportionately thicker than the posterior left ventricular wall (Fig. 2a). Subsequently, while the infant was still without symptoms and growing normally the abnormal electrocardiographic and echocardiographic findings slowly disappeared. At 27 months both M mode and cross sectional echocardiograms were normal (Fig. 2b). To date she has shown no signs of tuberose sclerosis.

## Discussion

In our case the echocardiographic finding of asymmetric ventricular septal hypertrophy in the absence of maternal diabetes led to the diagnosis of hypertrophic cardiomyopathy. Cardiac structural abnormalities typical of the disease are probably already present at birth, and reports suggest that further thickening of the septum occurs with time and growth.<sup>2</sup> Surprisingly, in our case the electrocardiographic and echocardiographic abnormalities gradually disappeared during the first months of life (Figs. 1 and 2). The cause of such abnormal findings remains obscure, but an explanation could be that of spontaneous regression of an intracardiac rhabdomyoma. Recently, there have been a few reports of spontaneous regression of such tumours in infancy, which were diagnosed by biopsy at open heart surgery but not removed.<sup>3-5</sup> Moreover, rhabdomyoma of the interventricular septum may show echocardiographic features similar to those found in our case.<sup>5,6</sup> In Hunter's patient cross sectional echocardiography showed a very large speckled mass in the middle and lower part of the muscular ventricular septum in the first days of life. The mass encroached into both ventricular cavities. Diagnosis was confirmed at open cardiac biopsy. The clinical and echocardiographic findings progressively disappeared with age, and when the patient was 4 years old there was barely any evidence of tumour in the septum (AS Hunter, personal communication).

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