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Echocardiography monitoring for diazoxide induced pericardial effusion

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DESCRIPTION

A 3-year-old boy with Down's syndrome with no underlying cardiac anomalies presented with hypoglycaemia due to congenital hyperinsulinism (CHI). He received treatment





Figure 1 (A) Long axis view of the heart showing 0.4 cm pericardial effusion anteriorly (a), 1 cm pericardial effusion at the apex (b) and 1.4 cm pericardial effusion posteriorly (c). (B) Long axis view of the heart showing 0.5 cm pericardial effusion (a), right ventricular cavity (RV) and left ventricular cavity (LV).

with oral diazoxide (Proglycem) (10 mg/kg/day), along with the diuretic chlorothiazide, which ensured glycaemic stability. However, a large pericardial effusion (figure 1A) requiring drainage was noted within a month. Diazoxide was discontinued and second line treatment with octreotide was commenced. Despite large doses (30 µg/kg/ day), glycaemic control remained unsatisfactory. A further trial of diazoxide was undertaken, pending a decision for subtotal pancreatectomy. Diazoxide was introduced at 1 mg/kg/day and increased to 4 mg/kg/day (low dose) by 2 weeks with satisfactory glycaemic control. However, serial weekly echocardiography detected minimal pericardial effusion (figure 1B) without overt features of cardiovascular instability. Withdrawal of diazoxide therapy led to resolution of the pericardial effusion. Euglycaemia was achieved by subtotal pancreatectomy. Diazoxide is commonly used as first line treatment for CHI. Diazoxide can cause fluid retention¹ and cardiovascular adverse events.² Heart failure in a child with underlying cardiac anomalies has been observed with high doses (15 mg/kg/day) of diazoxide.3 However, it is not recognised that diazoxide in low doses can cause pericardial effusion, particularly in the absence of underlying cardiac anomalies. In this case report, we have observed pericardial effusion at both high and low doses of diazoxide in a child with a structurally normal heart. Therefore, we would recommend meticulous cardiovascular monitoring in children commenced on diazoxide for CHI to prevent serious haemodynamic instability from developing pericardial effusions.

Competing interests None.

Patient consent Obtained.

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