

# Cardiac involvement in infant of diabetic mother: diagnosis and follow up of evolution

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**BACKGROUND.** Cardiac involvement is one of the most important clinical manifestations of newborn of diabetic mother.

**OBJECTIVES:** To present the main aspects of cardiac involvement in newborn of diabetic mothers (IDMs), the the diagnosis and follow-up their evolution

## METHODS:

**Patients:** 84 IDMs newborns investigated in the first week of life and 49 of them re evaluated at 6-12 month, by: \*clinical exam, \*ECG, \*cardiothoracic radiography (Rx.CT), \*Doppler echocardiography (Echo) for congenital and/or acquired cardiac diseases. Fetal echo was performed in 38 cases after 28 weeks of gestation.



G.M.5 days. IDMs



Non obstructive hypertrophic cardiomyopathy with asymmetric IVS hypertrophy

**RESULTS:** Fetal Echo showed: cardiomegaly and myocardial hypertrophy of left ventricle (LV)(11 cases), confirmed by postnatal Echo. Clinical exam in newborn: macrosomia (40% cases), in 32 patients a systolic murmur was found, only 3 cases with signs of heart failure and the other being asymptomatic or presenting signs for other pathology than cardiac. ECG: LV hypertrophy (14) and disturbed ventricular repolarization in 30 cases. Rx.CT: cardiomegaly (12). Echo showed: non obstructive hypertrophic cardiomyopathy (HCMP) with asymmetric IVS hypertrophy (34 cases:42%), arterial pulmonary hypertension(6), LV diastolic dysfunction with normal systolic function (52 %) and congenital cardiac anomalies: PDA (6), VSD (3 ), CoAo (1), ASD(4 cases) LV myocardial hypertrophy was not significantly correlated with the type of mother's diabetes, before pregnancy or gestational, but rather to an inadequate control of disease.

Control performed at 6-12 months (21 cases): revealed a normal morphological cardiac aspect (14 cases) or significant reduction of HCMP (7), all of them showing normal diastolic and systolic LV function.

**CONCLUSIONS:** Newborn of diabetic mother presents a high risk for cardiac involvement, either cardiac congenital malformations (17 %) or acquired cardiac pathology: HCMP (43 % of cases) and disturbances of diastolic function of LV (54 %). This fact justify early cardiologic screening for all of these newborns with or without of cardiac suffering symptoms. Fetal echo provides useful data for diabetic pregnant women and should be made mandatory to all these patients. Echo is the most sensitive and noninvasive method of diagnostic, useful for primary diagnostic as well as for follow up.