Diagnostic problems of cardiac involvement in newborn of diabetic mother

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Cardiac involvement is common in the newborn of diabetic mother and requires early diagnosis and monitoring of evolution. Objectives: To present the main aspects of the diagnosis of cardiac involvement in newborn of diabetic mothers (IDMs). Methods: Patients: 89 IDMs newborns investigated in the first week of life and 53 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: in 38 cases after 28 weeks of gestation. Results: Fetal Echo: cardiomegaly and myocardial hypertrophy of left ventricle (LV) (11 cases), confirmed by postnatal Echo. Clinical exam in newborn: macrosomia (40%), systolic murmur (32), only 3 cases with signs of heart failure, the other being asymptomatic or presenting signs for other pathology than cardiac. ECG: LV hypertrophy (14 cases) and disturbed ventricular repolarization (30 cases). Rx.CT: cardiomegaly (12 cases). Echo: non obstructive hypertrophic cardiomyopathy (HCMP) with asymmetric IVS hypertrophy (34 cases; 42%), arterial pulmonary hypertension (6 cases), LV diastolic dysfunction with normal systolic function (52% of cases) and congenital cardiac anomalies: PDA (6 cases), VSD (3 cases), coarctation of aorta (1 case), 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 (27 cases) revealed a normal morphological cardiac aspect (15 cases) or significant reduction of HCMP (11 cases), all of them showing normal diastolic and systolic LV function. Conclusions: Newborn of diabetic mother presents a high incidence for cardiac involvement: cardiac congenital malformations (16% of cases) or acquired cardiac pathology: hypertrophic cardiomyopathy (42% of cases) and disturbances of diastolic function of LV (54% of cases), which may be symptomatic or asymptomatic. Fetal echo provides useful data for diabetic pregnant women and should be made mandatory to all these patients. Early cardiologic screening for all of these newborns with or without of cardiac suffering symptoms, especially by Doppler echocardiography that is the most sensitive, noninvasive method for initial diagnostic as well as for follow up.