PRENATAL DIAGNOSIS OF INTERVENTRICULAR COMMUNICATIONS

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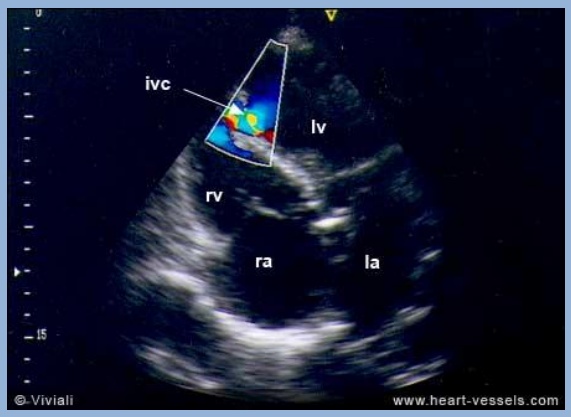
INTRODUCTION: The interventricular communication is a "hole" in the interventricular septum creating a communication and a passage of blood from the left ventricle to the right ventricle.

OBJECTIVE: Determine the sensitivity and specificity of ultrasonography in the diagnosis of interventricular communication, through anatomical-ultrasound confrontation.

MATERIALS AND METHODS: Retrospective study conducted at the Maternity and Neonatal Center of Tunis in the Embryo - Foetopathology department, referencing all cases of congenital heart diseases, in particular, cases of ventricular septal defect (VSD), over a period of 2 years, from January 2011 to December 2012.

RESULTS: Ninety-five cases of congenital heart disease, which represents a frequency of 5.73 %, were recorded in 1482 fœto-pathologic examinations. Out of the 85 detected heart diseases, 42 were ventricular septal defect, which represents a frequency of 49 %. The sensitivity of ultrasound in the detection of VSD was 40.47 % and specificity was 97.67 %. Ultrasound has a good positive predictive value in the detection of VSD of 94.44 %. Its negative predictive value was 62.68 %. In our series, the combination of VSD and other heart diseases was found in 43% of cases. It was mainly represented by the truncus arteriosus in 4 cases and the ASD in 4 cases. The extracardiac malformations associated with VSD were noticed in 83% of cases, mainly craniofacial anomalies in 3 % of cases and anomalies of the extremities in 36 % of cases.

DISCUSSION: Ventricular septal defects mainly occur in membranous and muscular intervals or at their border. The most common ventricular septal defects in the neonatal period occur in the region of the muscular septum. The five heart transverse planes according to Yagel et al.'s description allows diagnosis of congenital heart disease (CHD).



The sensitivity of detecting CHD with single four-chamber view is about 60%, the sensitivity increased if other transverse planes were combined. Sometimes, cases with small VSD are missed prenatally, probably because the ovale foramen and ductus arteriosus are open prenatally, which cause the same pressure in the right ventricle and the left ventricle, therefore there is no shunt through the VSD prenatally and the small defect is beyond the ultrasound resolving power [1]. The prognosis is favourable. Most of the patients experience spontaneous closure and show a very low mortality rate which is basically related to extracardiac anomalies [2].

CONCLUSION: The ventricular septal defect is a common congenital heart disease. The antenatal diagnosis can lead to look for other associated abnormalities or chromosomal aberrations and allows us to determine a therapeutic strategy.

[1] Prenatal diagnosis of congenital fetal heart abnormalities and clinical analysis, Hui Li et al. Univ Sci B. 2005 September; 6(9): 903–906

[2] Beramendi Calero JR, et al. Interventricular n in the neonatal period, An Esp Pediatr. 1998 Sep; 49 (3):284-8.