

Impact of Prenatal and Early Postnatal Diagnosis of Critical Congenital Heart Defects in Romanian Newborns

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Introduction: Congenital heart defects are the most common form of congenital anomaly, with a 0.8% incidence of all live births. In the case of critical malformations, prognosis and outcomes are significantly influenced by the time of diagnosis and proper postnatal management.

Material and Method: A prospective study was conducted at M.S curie Hospital, Bucharest, between January 2011 and December 2016, on 205 newborns with critical CHD (congenital heart disease). We aimed to identify the impact of prenatal and early postnatal diagnosis in our country's socio-economic context.

Results: Of the 205 newborns, only 61 pts (29,7%) had prenatal diagnosis while the other 144 pts (70,2%) were diagnosed postnatally. It was found that scheduled births were more frequent in the prenatally diagnosed group (82%) compared with postnatally diagnosed group (38%); invasive preoperative respiratory support was needed more frequent in the postnatally diagnosed group (75%) versus the prenatally diagnosed group (48%). A greater number of pts requiring preoperative antibiotic treatment for confirmed infections was also identified in the postnatally diagnosed group (88%) versus (60.6%) in the prenatally one. The median age at the time of surgery was 14 days for newborns with prenatal diagnosis and 25 days for those with postnatal diagnosis. Overall mortality was significantly lower for the prenatally diagnosed group (7.1%) compared to the postnatally diagnosed group (14.7%). The increased mortality in the second group was due to the higher mortality rate of the late diagnosed patients (at more than 72 hours after birth or even after discharging from maternity) going up to 40% in those diagnosed after discharge from maternity.

Conclusions: In the socio-economic context of our country, prenatal or early postnatal diagnosis in the first 48-72 hours of life provide similar (comparable) prognosis, while late diagnosis after more than 72 hours leads to a significant increase in mortality. The increase in mortality in this subgroup is due to the increased preoperative morbidity, to the delay of surgical moment secondary to late diagnosis, to the difficulty of finding a transport solution and a specialized center for properly resolution of cases.