

Prognostic value of BNP in newborns with congenital heart defects

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Introduction: B-type natriuretic peptide (BNP) is elevated during ventricular strain. Data are lacking on whether the use of BNP improves the prognosis in newborns with congenital heart defects (CHD).

Methods: A prospective study of a cohort of newborns with CHD admitted at a NICU in a tertiary hospital was performed between August 2012 and December 2013. Participants had BNP evaluated in the cord blood or at the first biochemical sample collected for clinical purposes within the first 48 hours of life.

Results: From the 26 patients with CHD amenable to surgery and with BNP determined within the first 48 hours of life, 10 had cardiac surgery in the newborn period: systemic to pulmonary shunts (n=3); arterial switch (n=2); Norwood (n=1); aortic valvuloplasty (n=1); pulmonary banding (n=1); correction of coarctation of aorta (n=1); correction of interruption of aortic arch (n=1). Patients that needed cardiac surgery in the newborn period had statistically significant higher BNP levels (73.7 pg/mL) in the first 48h of life than patients that were able to go home without surgery (27.6 pg/mL) (p=0.011).

Conclusions: BNP levels in first hours of life seem to have a prognostic value for the need of neonatal cardiac surgery. However, BNP is not a stand-alone test, it should be a complement of history, physical examination, echocardiography and clinical judgment.