The Role of N-Terminal Pro-Brain Natriuretic Peptide Levels to Predict Clinically Significant Ductus Arteriosus in Preterm Infants

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Aim: This prospective study aimed to investigate the diagnostic utility of N-terminal pro-brain natriuretic peptide (NT-proBNP) measurements to predict clinically significant patent ductus arteriosus (PDA).

Methods: In this study, 26 preterm infants (mean gestation 31.2 ± 2.5 week) were evaluated. Infants were categorized into three groups: without PDA, small PDA (<1.5mm) and significant PDA (≥ 1.5 mm). Plasma NT-proBNP levels were measured on the first, third and seventh days of the patients. Echocardiography was performed on the same periods of time, blinded to NT-proBNP concentration.

Results: As the distribution of 26 patients, 8 of the patients had small PDA (30.8%), 9 of the patients had significant PDA (34.6%) and other 9 of the patients did not have PDA (34.6%). As the PDA diameters increase, a significant raise in levels of NT-proBNP (p=0.001) was observed (fig 1). This effect was particularly demonstrated in the significant PDA group (p=0.001). There were no significant differences according to the echocardiographic parameters among the groups.

Conclusion: The NT-proBNP levels rise with increasing diameter of the PDA and due to NT-proBNP levels being high especially in hemodynamically significant PDA group suggests that NT-proBNP levels might be used in differentiation of significant PDAs.

Figure 1. NT-proBNP levels of the patients according to the patent ductus arteriosus.