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P1890 - DIAGNOSTIC CRITERIA OF HEMODYNAMICALLY SIGNIFICANT PATENT DUCTUS ARTERIOSUS IN PRETERM NEWBORNS

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Objective: To improve the accuracy of diagnosis of hemodynamically significant ductus arteriosus (HSDA) in preterm infants by determining objective clinical and Doppler echocardiographic criteria. The study involved 93 newborns of 24-35 weeks gestation (WG). Doppler echocardiography was conducted in the first days of life on a daily basis. The newborns were grouped into: Group 1



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(n=26) with weight 779.5±63.4 g of 24-29 WG, Group 2 (n=29) – weight 1297.1±112.6 g of 30-34 WG, Group 3 (n=38) with weight 1859.1±118.1 g of 32-35 WG.

Results: Doppler echocardiography showed HSDA in 13 (50.0%) (p<0.05) Group 1 children in accordance with the criteria elaborated by A.Sehgal, P.J.McNamara (2009); LV dilatation with hypertrophy of the wall and interventricular septum in 77.4% (p1\2; 1/3<0.05), RV dilatation in 82.8% (p1\2; 1/3<0.05), LA dilatation in 100% (p1\2; 1/3<0.05), 1st-2nd degree regurgitation on the tricuspid and pulmonary valves in 65.6% (p1\2; 1/3<0.05), increase in the average pressure in the pulmonary artery in 78.5% (p1\2; 1/3<0.05), disturbance of ventricular diastolic function by slow relaxation in 100% (p1\2; 1/3<0.05) of children. We identified additional Doppler echocardiography data in neonates who were rendered respiratory care with FiO2 40% or more, particularly the probability of false-negative result due to temporary functional closure of PDA. Furthermore, lack of reverse flow in the anterior cerebral artery and/or middle cerebral artery.

Conclusion: Morphological changes in cardiac chambers and clinical deterioration of newborns' state demonstrate the need to address the issue of hemodynamic significance ductus arteriosus. It is important to focus on the morphological changes in heart chambers, clinical condition of the patient and oxygen dependence.