



## The first case of transcatheter closure of patent ductus arteriosus in a premature newborn with extremely low body weight

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### **Objective:**

to show the result of the first case of transcatheter closure of PDA in a premature newborn with extremely low body weight

### **Material:**

Baby 2 of twins. Born at 30 weeks gestation with a weight of 880 grams. Operated at the age of 32 weeks and weighing 1050 grams. From the first day on artificial lung ventilation. Laboratory parameters Total blood count – thrombocytopenia ( $60 \times 10^9/L$ ); leukocytes ( $23.8 \times 10^9/L$ ); procalcitonin test - 0.760; urea – 7.6 mmol/l; creatinine – 89.2 mmol/l; total bilirubin 193.6 mmol/l; direct bilirubin 16.6 mmol/l; indirect bilirubin 177.0 mmol/l. Instrumental data: ultrasound of the abdominal cavity (stagnation in the system of hollow veins, free fluid in the interstitial space; depleted blood flow in the kidneys; signs of venous fullness of the liver; weakened intestinal peristalsis); EchoCG – PDA 3.2 mm, length 7.1 mm; dilation of the chambers of the heart (CDR of the pancreas 10.2 mm); neurosonography – hypoxic-ischemic changes the brain. Hemodynamic parameters have been changed.

### **Results:**

Arterial access 4 Fr delivery system; operation time (femoral artery puncture/hemostasis) - 54 minutes; contrast medium volume - 4 ml; fluoroscopy time - 5 min. Implanted Amplatzer Duct Occluder II AS. Extubated for 7 days. Total blood count – platelets -  $243 \times 10^9/l$ ; BWC  $27.3 \times 10^9/l$ ; procalcitonin test - 0.328; urea – 6.33 mmol/l; creatinine – 37.1 mmol/l; total bilirubin 43.0 mmol/l; direct bilirubin 17.9 mmol/l; indirect bilirubin 25.1 mmol/L. Instrumental methods of examination: ultrasound of the abdominal cavity (normalization of the diameter of the hepatic veins; blood flow through the renal arteries can be traced to the cortical layer; there is no free fluid in the abdominal cavity; intestinal peristalsis can be traced in all departments); EchoCG – discharge is not determined; pancreas is not expanded; neurosonography – hypoxic-ischemic changes in the brain. High-speed indicators of hemodynamics.



**Conclusions:**

The need for surgical/endovascular treatment of PDA in premature newborns with extremely low body weight remains a controversial issue. Probably, the closure of the PDA will help a small part of the newborns. Transcatheter closure of PDA has undergone a significant evolution over the past 10-15 years. The small size of the delivery system and the device itself make it possible to carry out transcatheter treatment of PDA in this category

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