Introduction:
Cardiopulmonary bypass (CPB) is associated with thrombotic complications. Occurrence of thrombosis after CPB is 12% which takes the third place between CPB-associated complications. Our study determined preoperative predictors of thrombosis in children with congenital heart defects.

Methods:
138 patients with congenital heart diseases in age up to 11 months 29 days (median age - 4,7 months, youngest age – 2 days after birth, oldest – 11 months 29 days), underwent cardiac surgery with CPB, were enrolled in this study. All patients were divided into two groups: 1st-without thrombosis, 2nd-with thrombosis. Protein C, D-dimer, von Willebrand factor and Plasminogen plasma levels were assessed directly before surgery. Thrombotic cases were proven by performing doppler ultrasound or MRI.

Results:
Thrombotic complications were diagnosed in 30 children (21%). Between all thrombotic complications ischemic strokes were diagnosed in 73% (22 cases), arterial thrombosis in 17 % (5 cases), intracardiac thrombus in 7% (2 cases) and mechanical mitral prosthetic valve thrombosis 3%(1). Receiver operating characteristic (ROC) curves are created for the listed indicators. Area under the Curve (AUC) for Protein C 0,64 (Sensitivity(Sn)- 65%, Specificity(Sp) - 50%), D-dimer is 0,65 (Sn – 65%, Sp 50%) , for Plasminogen activity - 0,62 (Sn 60%, Sp 40%) and for von Willebrand factor level - 0,64 (Sn 80%, Sp 55%). An ROC curve was created for all three indicators, the AUC was 0.7 (Sn – 80%, Sp – 40%). These parameters can be recommended as predictors of thrombosis in children after cardiac surgery.

Conclusion:
CPB is related with a large number of life-threatening complications. In our work, preoperative predictors of thrombosis were identified. Based on this data, it is possible to create thrombosis risk scale change the tactics of the anaesthetic approach, the prevention of thrombosis in the postoperative period. Further studies are needed to identify other possible predictors of thrombosis.