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PROTHROMBIN COMPLEX CONCENTRATE VS FRESH FROZEN PLASMA IN OBSTETRIC MASSIVE BLEEDING

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Background & Objectives: The severe capillary leak-induced respiratory and renal failure limit large-volume resuscitation with crystalloids and blood components. The combined use of low volumes of crystalloids and “damage control resuscitation” (DCR), a blood product resuscitation goal of a 1:1:1 ratio of packed red blood cells (PRBC), fresh frozen plasma (FFP) has recently been applied to obstetric patients in hemorrhagic shock.

Materials & Methods: Our research involved 51 patients with massive bleeding after cesarean section. Patients were divided into 2 groups: 1st group contained 10 patients as a treatment of massive bleeding with coagulopathy was scheduled PCC in a dose of 1 ml/kg (25 IU/kg), packed red blood cells (PRBC). 2nd group (41 patients) received fresh frozen plasma (FFP) in a dose of 20 ml / kg and PRBC. Evaluation of the functional state of the hemostasis system was carried out using low-frequency pyzoelectric thromboelastography (LPTEG) on admission to hospital and every 2 hours after the patient’s admission until normalization of hemostasis state.

Results: According to LPTEG indicators obstetric patients with massive bleeding has a statistically significant abnormality in all parts of hemostatic system: platelet aggregation - Intensity of contact coagulation (ICC), the coagulation - Intensity of coagulation drive (ICD), clot maximum density (MA) and fibrinolytic activity - Index of retraction and clot lysis (IRCL). Patients of 1st group received infusion of PCC with estimation of efficiency by LPTEG, signs of ongoing bleeding and clinical signs of relief hemorrhagic shock. Indicators of platelet hemostasis characterized by persistence of hypoagregatio, parameters of coagulation and fibrinolysis have reliable trend toward normal and decreasing the activity of fibrinolysis index reaches normal reference values 2 hours after, and became to the normal 4 hours after infusion of PCC. Patients of 2nd group received FFP have hypoagregation and mild hypocoagulation state with increased active of fibrinolysis and became to the normal 6 hours after infusion of FFP. Clinically, patients of the 1st group had reducing signs blood loss, decreased volume of transfusion PRBC for 11% and decreasing volume of infusion therapy for 19% compared to patients of 2^{ng} group. There are 1 case of transfusion related lung injury in 2nd group.

Conclusion: Obstetric patients with massive bleeding have violation in all parts of hemostatic system. The use of prothrombin complex concentrate can reduce the level of blood loss decrease volume of transfusion packed red blood cells and infusion therapy. Reducing the use of blood components in the intensive care unit of massive bleeding can be a method of preventing the development of TRALI-syndrome.

Disclosure of Interest: None declared

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