Proceedings of the Fourth International Conference of European Academy of Science

January 20-30,
2019,
Bonn, Germany

Publisher:
"EAS"
Heinemannstraße
53 175 Bonn
Germany
Tel: +45 3698 02 01
editor@academeofscience.com

Open access
Creative Commons

ISBN 9781095808566

Bonn, Germany
2019

TREATMENT OF MASSIVE OBSTETRICAL BLEEDING WITH PROTHROMBIN COMPLEX CONCENTRATE

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Background: Massive blood loss in obstetrics is often the cause of the development of coagulopathy and uncontrolled coagulopathic bleeding. These complications in the intersectional period are one of the main causes of the development of multiple organ failure syndrome and lead to a significant increase in the duration of hospitalization in the intensive care unit (Sohn C.H., 2017). At present, many clinicians consider the prothrombin complex concentrates (PCC) as a serious alternative to the use of fresh frozen plasma (FFP) in coagulopathies due to hepatic insufficiency and bleeding in various etiologies (Peyvandi F. et al. 2013; Collis R.E. et al. 2015).

The use of PCC in cases of severe coagulopathy (not associated with oral anticoagulants) has been described. These agents have been used for some time in some European countries (Klein A.A. et al., 2016). The scientific rationale is that coagulopathy can result from low concentrations of clotting proteins leading to a failure of adequate thrombin production and failure to initiate and maintain coagulation. Agents such as FFP allow the administration of these clotting proteins but only in a dilute form (reflecting normal population concentrations but no greater). As described earlier, FFP may lack efficacy in reversing established coagulation defects. PCC may help to restore thrombin production by providing (as inactive zymogens) those clotting factors most critical to coagulation: principally in restoring prothrombin concentration. This is supported by experimental research and observational studies. European Society of Anaesthesiology (ESA) guidelines on management of massive bleeding support the use of PCC (at a dose of 20–30 IU/kg) in adults (Kozek-Langenecker S.A. et al., 2017).

Obstetrical hemorrhage is the most common cause of maternal mortality worldwide. Together with adequate surgical control and judicious transfusion of blood products, the use of pharmacological agents (e.g., tranexamic acid) and clotting factor concentrates (e.g., fibrinogen concentrates and prothrombin complex concentrates) results in improved hemostasis and decreased bleeding-associated mortality. Guidance in the administration of these agents with the use of viscoelastic testing will likely become standard of care in the near future (Luis D. et al., 2018).

Objective: Evaluate the state of hemodynamics, water sectors, hemostasis, the frequency and severity of clinical manifestations of multiple organ failure (MOF) in the use of PCC in the treatment of massive obstetrical bleeding.

***Methods*:** This was a multicenter, retro-prospective study of PCC, conducted in 5 perinatal centers in the Dnipropetrovsk region over a period from January 2006 to December 2017. After approving the research design, the ethics committee examined 248 women, in which the labor or early postpartum period was complicated by acute severe blood loss with a blood volume deficit of 40-60%. Depending on the characteristics of intensive care patients were divided into 2 groups. In group 1 (n = 150), standard therapy of acute blood loss was performed according to clinical protocols of the Ministry of Health of Ukraine. In the 2nd group (n = 98), the PCC (Octaplex, 1000-1500 IU) was added to the treatment. The groups

were comparable with demographic indicators, the term of delivery, the volume of blood loss. Evaluated: the number of erythrocytes, hemoglobin, hematocrit, prothrombin index, fibrinogen, INR; water sector of the organism (total volume of fluid, volume of extracellular, intracellular and interstitial fluid) non-invasive - integral impedance method; clinical signs of MOF. Control points: 12 hours, 1, 3, 5, 7, 10, 14 and 28 days after delivery.

Clinical effectiveness was assessed by descriptive statistics in keeping with the primary and secondary objectives. The treatment was considered effective when a rating of very good or satisfactory was provided by the investigator. Results are presented as mean and standard deviation for parameters following the normal distribution and median and interquartile range for nonnormal distributions.

***Results*:** With the use of PCC there was a decrease by 24.5% ($p < 0.01$) of the total volume of infusion-transfusion media; a decrease of 22% ($p < 0.01$) of plasma volume and 9.1% ($p < 0.05$) of erythrocyte volume. There was also a decrease in the frequency (in 5.1 times, $p < 0.01$) and the duration of vasopressor support (1,5 days, $p < 0.01$), mechanical ventilation (5.7 times, $p < 0.01$), was reduced as the number of patients requiring substitution renal therapy (2.9 times, $p < 0.01$), and the duration of the latter (1.7 days, $p < 0.01$). The frequency of manifestations of gastrointestinal insufficiency declined more than 2 times. The levels of prothrombin index and fibrinogen corresponded to the norm at the end of 1 day of treatment.

***Conclusions*:** The use of PCC in the transfusion therapy of acute blood loss forms a restrictive type of supplementation of the blood volume deficiency, which provides a reliable decrease in the frequency of clinical manifestations of multiple organ failure. The use PCC prevents the development and progression of coagulopathy in the treatment of massive obstetrical bleeding.

VALUE OF CYTOGENETIC PARAMETERS IN PATIENTS WITH ACUTE ODONTOGENOUS FACIAL INFLAMMATION COMPLICATED BY PROLONGED TREATMENT

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Problems of diagnostics and prognosis of the course of purulent-inflammatory diseases of the maxillofacial area at the moment remain relevant and still far from their final solution. In the last decade there is an increase in the number of patients with complicated atypical and long-term course of purulent-inflammatory process, which leads to loss of ability to work, increase in disability and increase fatal cases.

The course and completion of inflammatory disease, according to domestic and foreign authors, in most cases is related to the age of patients, the presence of concomitant and background diseases, the state of the immune system, as well as the general hereditary background of the organism, which determines the nature of the reaction to one or another internal influence.

At the given moment there is a significant amount of knowledge that can determine the important role in the development of various diseases of the destabilization of the genome. It is known that the "resistance" of the genetic apparatus of cells in infectious patients