CASE REPORT

CONSERVATIVE TREATMENT OF PUERPERA WITH SEVERE HEMORRHAGIC SHOCK AND SECONDARY COAGULOPATHY

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Received: 05.02.2020.
Accepted: 12.02.2020.

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UDK: 616-005.1-055.26
616.151.5-055.26
Ser J Exp Clin Res 2022; 23(3):281-284
DOI: 10.2478/sjecr-2020-0007

ABSTRACT

Aim: The main aim is to show that the life of a patient depends on the decisions the doctor makes as well as the proper assessment of the case. The decision to avoid a surgical procedure and continuewith the conservative treatment following the vital parameters, was beneficial for the patient who was later discharged recovered. Case report:The case is about a patient who was in labor for the fifth time with the delivery complicated by severe postpartum hemorrhage in the secondary health care institution. Despite all conservative measures taken, the hemorrhage hasn't stopped, therefore, the subtotal hysterectomy was performed, after which the patient was directed to the Clinical Centre Kragujevac. Regarding the fact that the postpartum hemorrhage hasn't stopped and abdominal hematoma as well as intracranial hemorrhagewere diagnosed, the main dilemma was if the surgical procedure should be redone or if the conservative treatment should be continued. By applying the conservative treatment andcontinued consultations of the multidisciplinary team, the patient was discharged from the Clinical Centre Kragujevac. Conclusion: The main issue with severe cases like this one, is to define and direct the treatment towards the lower risk rate – repeated surgery could be fatal with the current state of the patient. The estimation was correct, at the end, the patient was released after thelengthy treatment, recovered.

Keywords: *Conservative treatment, hemorrhagic shock, secondary coagulopathy*

INTRODUCTION

Postpartum hemorrhage (PPH) is the leading cause of maternal mortality, and is responsible for the loss of over half of million women at childbirth. The vast majority ofdeaths during childbirth caused by PPH is in the low or middle developed countries (1,2). The postpartum hemorrhage is commonly defined as blood loss over 500ml after the vaginal delivery, or loss over 1000ml after the caesarean section. However, the exact blood loss during or after the delivery is very hard to estimate and severeness of the situation depends on the accoucheur's predicament, as well as on the health status of the mother prior to the labour (3-5). The most common reason for PPH is bleeding from the placental site as the result ofuterine atony, that persists shortly after the delivery (6,7). Thus, it is highly recommended to apply the active management for the third stage of the labour, in order to prevent the occurrence of uterine atony and PPH (8-10). In some cases, the applied techniques and measures are insufficient, so the operative treatment is necessary (11,12). The surgical treatment is the last step, and it is done only in the case of persistent PPH when all other measures are exhausted (the application of the uterotonics, bimanual uterine compression, uterine curettage, uterine artery embolisation), when the puerperal hysterectomy presents the last choice to stop the hemorrhage. Right alongside with the actions to stop PPH, measures for sustaining the patient's optimal conditions are applied in order to prevent development of the disseminated intravascular coagulopathy (DIC) and stop the patient from entering the irreversible stage of the hemorrhagic shock. In this case report, we present the patient with severe PPH in the second stage of the hemorrhagic shock.

CASE REPORT

The patient, thirty three years old, who had given birth five times, was urgently transferred from the Gynecological Department of the General Hospital Kraljevo because of persistent postpartum hemorrhage. The patient had a delivery by applying the vacuum extraction because of the stasis during expulsion of fetus. The hemorrhage occurred postpartum during the uterine atony which hadn't stopped after the application of syntocinon or other uterotonics. The uterine hemorrhage was present combined with the hemorrhage from episiotomy and the back fornix of the vagina as a result of the soft tissue lacerations. The patient was submitted to an urgent surgery, which impliedthe subtotal hysterectomy, drainage of the Douglas pouch and suturingof the soft tissue injuries . The hemorrhage however didn't stop afterthe surgery. At the end, the compression was applied to try to stop further bleeding by placing iodine pads and suturingthem to the labia majora, after which the patient was transported to the Clinical Centre of Kragujevac. Upon theadmission to the Intensive Care Unit (ICU), the patient was intubated, hypotensive TA 85/35mmHg, tachycardic (pulse over 125 per min) with persistent hemorrhage which appeared through the pads and sutures. Complete urgent laboratory blood analyses with simultaneously rotational thromboelastometry (ROTEM) had been done which showed a decrease in the blood counts and a decrease in the coagulation factors (Table 1)

Table 1. Initial Laboratory values

Hemoglobin	49g/dl	RBC	1,8 x 10^9/L
HTC	0,155	PLT	73 x 10^9/L
WBC	24,9 x 10^9/L	APTT	110 s
INR	3,02	FIB	0,34 g/L
Albumins	20 g/L		

The urgent radiological diagnosis showed only a smaller amount of the free fluid in the Douglas pouch.The initial multi sequential computerised tomography (MSCT) of the endocranium didn't indicate any pathological alterations. MSCT angiography of the major pelvic arteries didn't show extravasation of the contrast agents. After the consulting examinations, which included an anesthesiologist, gynecologist, surgeon and vascular surgeon, neurologist and transfusiologist, the decision was made to continue the treatment conservatively. Cardiopulmonary resuscitation wasinitially performed with volume recompense, crystalloides and colloids like Ringer lactate, 0.9% NaCl, 20% albumins were given, blood transfusion and blood components (9 doses of deplasmatic erythrocytes, 5 doses of fresh frozen plasma, 5 doses of platelets and 2 doses of apheresis platelets ,tranexamic acid, 17 doses of cryoprecipitate) after that inotropic dopamine stimulation was applied together with antibiotic and analgesic therapy. The patient was continually sedated and observed and the control of blood values was repeated. The therapeutic response was adequate, which was confirmed afterwards by blood test results.

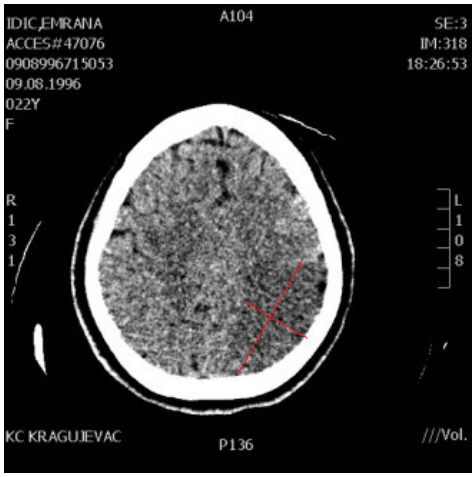
On the second day of the hospitalization, despite the previously mentioned therapy, general condition worsened followed up by high fever (over 39°C), as well as blood tests results. The ultrasound and X ray (abdominal and pelvis EHO and MSCT) were redone and they showed hematoma 89x69x68 mm in diameter localized in the uterine segment with a small quantity of serohemorragic fluid in the Douglas pouch (Figure 1). After the repeated consulting examinations which included a gynecologist, surgeon, transfusiologist and pharmacologist, it was decided to continue with backup antibiotics (Meronem and Vancomycin) instead of previously used (Longacef and Metronidasole).

Figure 1. CT scan of the pelvis. Markedly hypervascular mass in Recto-Uterine pouch



In the following days, the general condition of the patient was getting better, the patient was no longer on inotropic stimulation or mechanical ventilation and general nutrition was given. After extubation, the patient was somnolent, uncommunicative with a deviation of the eye on the left side. A neurologist ordered MSCT of the endocranium, which showed hyperdensity in the left parietal zone (hemorragia) with laucnar ischemic zone (Figure 2), while MSCT of the abdomen and pelvis showed regression of the aforementioned hematoma (Figure 3).

Figure 2. CT scan of the brain



After consulting the neurologist, the antiedema, anticonvulsant and anticoagulant therapy was administered. On the 10th day of the hospitalization, the patient was communicative, hemodynamically stable, neurologically recovered, with the following blood results (Table 2). After the last consultation with the neurologist, the rehabilitation was indicated because of a minor neurological disorder. The patient was discharged home fully recovered after one week of the physical therapy.

Fugure 3. CT scan of the pelvis shows regression of hematoma



Table 2. Laboratory values after conservative treatment

Hemoglobin	98g/dl	RBC	3,54 x 10^9/L
HTC	0,298	PLT	76,8 x 10^9/L
WBC	10,71 x 10^9/L	APTT	43 s
INR	1,51	FIB	5,47 g/L
Albumins	32 g/L		

DISCUSSION

Disseminated intravascular coagulation (DIC) occurs in obstetrics usually after the massive postpartum bleeding (13,14) In the case reported, surgical measurements in order to stop the hemorrhagewere partially depleted, because of the fact that the postpartum hysterectomy was already done and minor injuries of the soft tissue were handledPelvic hematoma conjoined with the intracranial hemorrhage was a repercussion of secondary coagulopathy, and thus barely mentioned in the case reports so far (15,16). The treatment of coagulopathy with aggressive blood transfusion, fresh frozen plasma, cryoprecipitate and tranexamic acid was crucial in the conservative treatment of the patient. The initial doubt over the surgical treatment was overruled with repeated consulting examinations and continuous monitoring of the patient. This case report shows that secondary coagulopathy might be a risk for hematoma occurrence as well as for intracranial hemorrhage and the prompt surgical procedure is not always the solution.

CONCLUSION

Evaluating the risks and following the ethical code '*Primum non nocere'* were the reasons to treat the patient conservatively despite the presence of secondary hemorrhage. The evaluation was correct and the patient was discharged fully recovered.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was conducted in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national) and the Helsinki Declaration of 1975, as revised in 2013. Voluntary written and informed consent was obtained from the patient prior to enrollment in the study

CONFLICT OF INTEREST

There are no conflicts of interest.

FUNDING

None.

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