

## Successful management of severe preeclampsia major complications: Case report

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### ABSTRACT

Severe preeclampsia (PE) have considerable adverse outcome especially in low-resource countries. A 21-year-old pregnant woman with severe PE and intrauterine fetal death, delivered by cesarean section (CS). The CS complicated by atonic postpartum hemorrhage (PPH). She was transferred by the air ambulance to the tertiary center of West Kazakhstan University-intensive care unit, once she developed anuria. She was carefully monitored after exclusion of maternal sepsis and HELLP (hemolysis, elevated liver enzymes and low platelet) syndrome and she developed postpartum eclampsia and right partial lobe intracranial hemorrhage (ICH). She was managed by multi-disciplinary team with proper and clear management plan and discharged from the hospital on the 20<sup>th</sup> postpartum day in good general condition. The complications of severe PE need clear multi-disciplinary team management plan to avoid the adverse outcome of the severe PE.

**Keywords:** Complications, preeclampsia, report, severe, successful

### Introduction

Hypertensive disorders with pregnancy are the second leading cause of maternal death worldwide.<sup>[1]</sup>

Hypertensive disorders with pregnancy are common in low- and middle-income countries.<sup>[1]</sup> Maternal hemorrhage, hypertension, and sepsis are the three leading causes of maternal deaths.<sup>[2]</sup>

Preeclampsia (PE) has significant avoidable adverse maternal and fetal outcome.<sup>[1]</sup> Severe PE associated with 50,000-100,000

annual deaths worldwide and the incidence of severe PE is 1.7% in Africa and 0.5% in Europe and United Kingdom.<sup>[2]</sup>

### Case Report

A 21-year-old pregnant woman, admitted to Shalkar Medical Center as primigravida, severe PE, and intrauterine fetal death (IUFD) at 32 weeks' gestation due to abruptio-placentae and delivered by cesarean section (CS).

*Intraoperatively:* the placenta was totally separated with Couvelaire uterus and atonic postpartum hemorrhage (PPH) managed by B-Lynch, intravenous carbetocin (100 ug), tranexamic acid (1 gm), and misoprostol (800 µg) according to hospital protocol.

The blood loss during the CS and PPH was estimated to be 2.000 ml and she received 6 units of fresh frozen plasma, 4 pints

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of packed red blood cells (RBCs) during the CS, and magnesium sulfate (MgSO<sub>4</sub>) for 24 hours after delivery for prevention of eclampsia.<sup>[1]</sup>

She was transferred by the air ambulance to West Kazakhstan University (WKU) maternal intensive care unit (ICU), as severe PE complicated by IUFD due to abruptio-placentae and renal failure (anuria).

She was carefully monitored in the WKU-ICU using central venous pressure (CVP), fluid chart, and laboratory investigation according to the hospital protocol using the coagulation profile and the liver, renal function tests.

*On admission to WKU-ICU:* she was anemic (hemoglobin 7.8 gm/dl), with generalized edema, anuria, 160/110 mmHg blood pressure,  $21 \times 1000/\text{mm}^3$  platelet count (thrombocytopenia), with normal coagulation profile, normal bilirubin, and normal liver function tests (hemolysis, elevated liver enzymes, and low count of the platelet (HELLP) syndrome excluded).

In addition, the evidence of hemolysis excluded with normal bilirubin, normal peripheral blood film, and normal reticulocyte count.

Markers of infections showed elevated total leucocyte count ( $15.000/\text{mm}^3$ ), while the other markers of maternal sepsis (C-reactive protein (CRP) and pro-calcitonin) were normal (maternal sepsis excluded).

She was managed by multidisciplinary team approach (nephrologist and neurologist beside the obstetrician) with clear management plan including: (1) Correction of anemia using packed RBCs. (2) Correction of the thrombocytopenia using platelet concentrate. (3) Control of the blood pressure to maintain the blood pressure <160/100 mmHg using labetalol 200 mg/12 hourly. (4) Renal dialysis based on the renal function tests, serum potassium, and signs of fluid overload. (5) Human albumin to correct hypoalbuminemia. (6) Laboratory investigations every 3 days (coagulation profile and the liver, renal function tests).

The studied woman developed two attacks of tonic colonic convulsions on the 5<sup>th</sup> day postpartum 12 hours apart (1<sup>st</sup> lasted for 3 min. and the 2<sup>nd</sup> lasted for 5 min.) and she was comatosed (11-12 Glasgow coma scale) after the second attack.

The brain computerized tomography (CT) showed right partial lobe intracranial hemorrhage (ICH) of 1.35 cm<sup>3</sup> volume. The neurologist advised carbamazepine (100 mg 12 hourly) for control of convulsions and stated that the small partial ICH cannot explain the postpartum convulsions.

The thrombocytopenia, anemia, ICH, and the postpartum eclampsia were added to the final diagnosis of the studied woman.

The renal failure was transient due to acute tubular necrosis managed by five sessions of dialysis and on the 10<sup>th</sup> postpartum day; the urine output was normal with normal renal function tests.

The ICH size decreased and resolved on the 16<sup>th</sup> postpartum day by the follow-up brain CT and she was discharged from the hospital on the 20<sup>th</sup> postpartum day in good general condition. Patient's consent and ethical approval obtained for publication.

## Discussion

The complications of severe PE can be serious enough to cause fetal and maternal morbidity. Intravascular coagulopathy, renal failure, and HELLP syndrome<sup>[1,2]</sup> are the commonest complications of severe PE.

Severe PE increases the risk of adverse maternal outcome by 8.7-fold.<sup>[3]</sup> Cerebral hemorrhage, pulmonary edema, renal failure, and/or intravascular coagulopathy are the causes of maternal death in severe PE.<sup>[1,3]</sup>

Long-term complication of severe PE includes chronic renal failure, persistent hypertension, and/or cortical blindness.<sup>[3]</sup>

Ngwenya reported that the incidence of PE/eclampsia was 1.3% in Zimbabwe with 9.1% incidence of HELLP syndrome as the most common complication associated with severe PE.<sup>[1]</sup>

In addition, Ngwenya reported that the incidence of maternal mortality was 1.7% (2/121) due to acute renal failure and the perinatal mortality was 49.6%.<sup>[1]</sup>

Ngwenya found that the two patients out of 121 women (1.7%) with severe PE/eclampsia died due to acute renal failure and he explained the maternal death by the delay patients' arrival to the tertiary hospital due to the long distance between the referral centre and the tertiary hospital.<sup>[1]</sup>

Most of the obstetrics and maternal care centers use MgSO<sub>4</sub> for prevention of eclampsia in patients with severe PE and manage cases of severe PE in the maternal ICU.<sup>[1,4]</sup>

The studied case presented to the tertiary center of WKU-ICU as a case of severe PE complicated by IUFD and PPH. She was carefully monitored after exclusion of maternal sepsis and HELLP syndrome and she developed postpartum eclampsia and right partial lobe ICH.

She was managed by multidisciplinary team. The renal failure was transient due to acute tubular necrosis managed by five sessions of dialysis. The ICH resolved on the 16<sup>th</sup> postpartum day by the follow-up brain CT and she was discharged from the hospital on the 20<sup>th</sup> postpartum day in good general condition. This case report highlights the importance of the clear management plan to avoid the adverse outcome and the morbidity of the severe PE.

## Conclusion

The complications of severe PE need clear multidisciplinary team management plan to avoid the adverse outcome of the severe PE. We are in need for an international program to increase the awareness of the population toward the serious morbidity associated with the hypertensive disorders with pregnancy.

## Authors' contribution

SS is responsible for the report idea, follow-up of the studied case, and intellectual content. BK is responsible for follow-up of the studied case, Microsoft editing, and final revision before publication. MS is responsible for follow-up of the studied case and update of references. IAA is responsible for final revision before publication, update of references, and submission for publication. TS and MB are responsible for follow-up of the studied case, update of references, and intellectual content.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and

due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

## References

1. Ngwenya S. Severe preeclampsia and eclampsia: Incidence, complications, and perinatal outcomes at a low-resource setting, Mpilo Central Hospital, Bulawayo, Zimbabwe. *Int J Womens Health* 2017;9:353-7.
2. Boene H, Vidler M, Sacoor C, Nhama A, Nhacolo A, Bique C, *et al.* Community perceptions of pre-eclampsia and eclampsia in southern Mozambique. *Reprod Health* 2016;13(Suppl 1):33.
3. Ghimire S. Eclampsia: Feto-maternal outcomes in a tertiary care centre in Eastern Nepal. *JNMA J Nepal Med Assoc* 2016;54:24-8.
4. Duley L, Golmezoglu AM, Chou D. Magnesium sulphate versus lytic cocktail for eclampsia. *Cochrane pregnancy and childbirth group. Cochrane Database Syst Rev* 2010;9:CD002960.