REVIEW ARTICLE

ECLAMPSIA IN A MULTIPARA WITHOUT PRIOR HISTORY OF PREECLAMPSIA / ECLAMPSIA

[1]*Prilly Astari and [2]Ong Tjandra

[1]General Practitioner at Sehati Specialist Clinic, Tangerang-Indonesia
[2]Consultant Department Ginecology Oncology at Bethsaida Hospital, Tangerang-Indonesia

ARTICLE INFO	ABSTRACT
	Background: Preeclampsia (PE) occurs in 2-8% of all pregnancies and mostly happens in the first pregnancy. The risk of developing PE in a third pregnancy (multipara) without a previous PE / E history is very small, especially if it occurs at under 34 weeks of gestation. **Objective:** To report a case of eclampsia in a multipara without prior history of preeclampsia / eclampsia. **Methods:** Case report. **Results:** A 32-year-old woman G3P2A0 with 32-33 weeks' gestation, came to the Tangerang Bethsaida Hospital emergency room with a history of seizure at home. Vital signs at the time of arrival showed blood pressure of 180/110 mmHg, pulse of 140 x/minute, respiratory rate of 20 x/minute, temperature of 36.5^0C, and oxygen saturation of 99%. Physical examination revealed minimal edema in lower extremities. ECG showed tachycardia, FHR using CTG was 140 x / minute, laboratory results showed urine protein 75mg / dL, triglycerides 537mg / dL, uric acid 11.5mg / dL, leukocytes 18,340 / μL, other CBC results along with HBA1C, albumin, AST, ALT, blood glucose, urea, creatinine, serum electrolytes (Na, K, Cl), bleeding time, clotting time, PT, and APTT were normal. Patient routinely comes for antenatal care. There was no history of preeclampsia/eclampsia during the first and second pregnancies. She was admitted to the ICU and diagnosed as eclampsia, received Adalat oros therapy, Aldomet, Perdipine, MgSO4, Dexamethasoneinjection for 24 hours for lung maturation, as well as pregnancy termination. After 24 hours in the ICU, cesarean operation and tubectomy were performed, a 1,495 gram baby boy was born, length 39 cm, APGAR score 3/8. The patient was treated with antibiotics, antihypertension, and vitamins. She was hospitalized for 3 days. **Conclusions:** We reported one case of a woman with the third pregnancy (multipara) of 32-33 weeks' gestation with eclampsia without history of PE / E in both previous pregnancies. This is a very rare case, however with proper management, good outcomes can be achieved for both the mother and baby.

INTRODUCTION

Preeclampsia (PE) is defined as a new incidence of hypertension (systolic blood pressure ≥ 140 / diastolic blood pressure ≥ 90 mmHg) and proteinuria (≥ 300 mg protein in urine for 24 hours or protein: creatinine ratio ≥ 0.3 or dipstick +1) after 20 weeks of pregnancy in women who previously had normal blood pressure (Duley, 2011; Steegers, 2010). The incidence of PE is around 2-8% of the total number of pregnancies and is closely related to high maternal mortality and fetal morbidity, such as fetal growth restriction and preterm birth (Brown, 2003). Preeclampsia may worsen and lead to seizure, a condition called eclampsia (Duley, 2011). The American College of Obstetricians and Gynecologists (ACOG) recommends replacing mild preeclampsia to preeclampsia

Corresponding author: Prilly Astari,
General Practitioner at Sehati Specialist Clinic, Tangerang-Indonesia.

without severe features and severe preeclampsia becomes preeclampsia with severe features. In addition, proteinuria does not always have to be present to establish a diagnosis of preeclampsia (Task Force on Hypertension in Pregnancy, 2013). Preeclampsia with severe features if one or more symptoms / signs are found: a) systolic blood pressure ≥ 160 or diastolic blood pressure ≥ 110 mmHg on two measurements with 4 hours interval when the patient is in rest; b) thrombocytopenia (platelet count < 100,000/μL; c) impaired liver function characterized by an increase in transaminases twice the normal value, severe persistent upper right abdominal pain or epigastric pain that does not improve with treatment or both; d) progressive renal insufficiency (serum creatinine concentrations > 1.1 mg/dL); e) pulmonary edema; f) new-onset cerebral or visual disturbances (Task Force on Hypertension in Pregnancy, 2013). Until now, the absence of optimal prevention, good predictors, and poor prognosis of preeclampsia / eclampsia cases make this case difficult to detect and require immediate treatment. In this paper, we

reported a case of eclampsia in a multipara woman without prior history of preeclampsia / eclampsia.

CASE REPORT

A 32-year-old woman G3P2A0 with 32-33 weeks' gestation, came to the Tangerang Bethsaida Hospital emergency room with a history of seizure at home. Vital signs at the time of arrival showed blood pressure of 180/110 mmHg, pulse of 140 x / minute, respiratory rate of 20 x / minute, temperature of 36.5^{0}C, and oxygen saturation of 99%. Physical examination revealed minimal edema in lower extremities. ECG showed tachycardia, FHR using CTG was 140 x / minute, laboratory results showed urine protein 75mg / dL, triglycerides 537 mg / dL, uric acid 11.5 mg / dL, leukocytes 18,340 / µL, other CBC results along with HBA1C, albumin, AST, ALT, blood glucose, urea, creatinine, serum electrolytes (Na, K, Cl), bleeding time, clotting time, PT, and APTT were normal. Patient routinely came for antenatal care with normal records of blood pressure and weight gain, ultrasonography showed viable single fetus with estimated fetal weight appropriate for gestational age based on Hadlock curve, which was 1,162 grams at 28-29 weeks gestation. There was no history of preeclampsia/eclampsia during the first (born in 2012 with birth weight 3,400 grams) and second (born in 2015 with birth weight of 3,200 grams) pregnancies.

She was admitted to the ICU and diagnosed as eclampsia, received Adalat oros therapy, Aldomet, Perdipine, MgSO4, Dexamethasone injection for 24 hours for lung maturation, as well as pregnancy termination. After 24 hours in the ICU, cesarean operation and tubectomy were performed, a 1,495 grams baby boy was born, body length 39 cm, and APGAR score 3/8. The patient was treated with antibiotics, antihypertension, and vitamins. After two days of ICU treatment, the patient's condition improved, then she was transferred to the ward. After 24 hours later, the patient was discharged. The baby was treated in NICU with Non Invasive Ventilation nasal prongs. After 14 days, the baby's condition improved and was discharged with the weight of 1,400 grams.

DISCUSSION

Most cases of preeclampsia / eclampsia occurs in the first pregnancy with a risk of 3.6%, 3.9%, and 4.11% of all pregnancies. If there is no history of PE / E in the first pregnancy, the risk of PE / E in the second pregnancy decreased to 1.14% - 1.3% and the third pregnancy ranged between 1.08% - 1.3% (Trogstad *et al*., 2001; Skjaerven *et al*., 2002; Hernandez-Diaz, 2009). This number does not differentiate the onset of PE / E. Furthermore, Hernandez-Diaz *et al.*, classified the onset of the occurrence of PE / E to be after 34 weeks (preeclampsia) and before 34 weeks (severe preeclampsia). The study showed that pregnant women without previous PE / E had very little risk of developing severe preeclampsia in the third pregnancy (multipara), which is only about 0.13% (Hernandez-Diaz, 2009). In this case, the seizure occured in the third pregnancy before 34 weeks gestation without a history of PE / E before. Based on the results of the

physical and laboratory examination, there were some severe features, namely blood pressure of 180/110 mmHg and seizure, but without complications of HELLP syndrome, renal insufficiency, pulmonary edema, visual impairment, or fetal distress. Patient responded well to therapy with good outcomes for both the mother and baby. The risk of PE / E without a previous history can also vary according to the length of distance between deliveries. This can be linked to a study in Sweden and Norway that reported women without a history of preeclampsia in their first pregnancy had a risk of developing PE in the second pregnancy which increased with increasing intervals between deliveries. Likewise women without a history of preeclampsia in the two previous pregnancies have a risk of developing PE in the third pregnancy which increases with increasing length of interval between deliveries. The risk of delivery distances of 2, 8 and 10 years were 0.83%, 2.2%, and 3.0%, respectively (Skjaerven, 2002; Hernandez-Diaz, 2009). Patients in this report had a history of 3 years of labor. Thus, according to the literature the risk of PE occurring in this pregnancy is around 1%. One variable that has been widely used as an output predictor of preeclampsia / eclampsia is uric acid levels. If the uric acid plasma level is above 0.35 mmol/l (> 5.9 mg/dL), this condition is called hyperuricemia. Hawkins *et al*., reported hyperuricemia in preeclampsia is strongly associated with adverse outcomes for the mother and infant, especially maternal renal insufficiency (creatinine > 90 mg/l or 1 mg/dL), small infants for gestational age (<10 percentile), and prematurity (<37 weeks of gestational age) (Hawkins *et al*., 2012). Therefore, measurement of uric acid can help in the management of preeclamptic patients because high uric acid levels is closely related to the possibility of increased complications for the mother and baby. In this case, the patient had hyperuricemia (11.5 mg/dL) but there was no increase in creatinine levels. In accordance with Hawkins research, the outcome of the baby is small for gestational age (birth weight of 1,495 gram) and premature (32-33 weeks gestational age). Pregnant women with a history of severe preeclampsia, eclampsia, or complications of HELLP syndrome have a risk of 22% occurrence of PE in subsequent pregnancies. Other risks also increase, such as eclampsia (1.9%), placental abruption (2.5%), and perinatal deaths (2.7%). These figures were found to be higher in pregnant women with onset of eclampsia before 37 weeks (Sibai *et al*., 1992). Taking into account risks of having more children, the patient in this case decided to have a tubectomy.

Conclusion

There was a case on a pregnant woman with the third pregnancy (multipara) in 32-33 weeks gestational age with eclampsia without history of PE / E in both previous pregnancies. This is a very rare case but with proper management, good outcomes can be achieved for both the mother and baby.

Conflict of Interest

None of the authors have affiliations with or involvement in any organization or entity with any financial interest or

nonfinancial interest in the subject matter or materials discussed in this study.

List of Abbreviations

ACOG	American College of Obstetricians and Gynecologists
ALT	Alanine Aminotransferase
APGAR	Appearance, Pulse, Grimace, Activity, Respiration
APTT	Activated Partial Thromboplastin Time
AST	Aspartate Aminotransferase
CBC	Complete Blood Count
CTG	Cardiotocography
ECG	Electrocardiography
FHR	Fetal Heart Rate
HELLP	Hemolysis, Elevated Liver enzyme, Low Platelet
ICU	Intensive Care Unit
MgSO4	Magnesium Sulfate
NICU	Neonatal Intensive Care Unit
PE / E	Preeclampsia / Eclampsia
PT	Prothrombin Time

REFERENCES

Duley L. 2011. Pre-eclampsia, eclampsia, and hypertension. BMJ Clin Evid.

Steegers EA., Von Dadelszen P., Duvekot JJ., Pijnenborg R. 2010. Pre-eclampsia. Lancet2010;376:631-44.

Brown MA. 2003. Pre-eclampsia: a lifelong disorder. Med J Aust.179:182–4.

Task Force on Hypertension in Pregnancy. American College of Obstetricians and Gynecologists. *Hypertension in Pregnancy*; 2013.

Trogstad LI., Eskild A., Magnus P., Samuelsen SO., Nesheim BI. 2001. Changing paternity and time since last pregnancy; the impact on pre-eclampsia risk. A study of 547 238 women with and without previous pre-eclampsia. *International Journal of Epidemiology,* 30:1317-22.

Skjaerven R., Wilcox AJ., Lie RT. 2002. The interval between pregnancies and the risk of preeclampsia. *N Engl J Med.,* 346:33-8.

Hernandez-Diaz S., Toh S., Cnattingius S. 2009. Risk of pre-eclampsia in first and subsequent pregnancies: prospective cohort study. *BMJ.,*338:b2255.

Hawkins TLA., Roberts JM., Mangos GJ., Davis GK., Roberts LM., Brown MA. 2012. Plasma uric acid remains a marker of poor outcome in hypertensive pregnancy: a retrospective cohort study. BJOG;119:484-92.

Sibai BM., Sarinoglu C., Mercer BM. 1992. Eclampsia. VII. Pregnancy outcome after eclampsia and long-term prognosis. *Am J Obstet Gynecol.,*166:1757-63.

****