



## CASE REPORT PREGNANT MOTHER WITH SEVERE PRE ECLAMPSIA

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### ABSTRACT

Preeclampsia is a problem that has a high level of complexity, and contributes to the cause of maternal death. The problem of preeclampsia not only affects to the mother during pregnancy and childbirth, but also causes postpartum problems due to endothelial dysfunction of various organs. The main goals of treating preeclampsia are to prevent eclampsia, give birth to babies without asphyxia, and prevent maternal and perinatal mortality. To find out how to perform midwifery care for pregnant women with severe preeclampsia. Using a case study method and located in Tugurejo Hospital, Semarang. Pregnant women who had severe pre-eclampsia. The case study was conducted on July 30, 2022. The data collection techniques by interviews, physical examinations, observations, secondary data including documentation studies and literature studies. Based on the main problem in Mrs. N The care carried out is by doing expectatif therapy, recommending patients to reduce strenuous physical activity, which can cause fatigue. KIE to mothers regarding the management of PEB patients according to doctor's advice, and providing therapy according to doctor's advice, namely the administration of MgSO<sub>4</sub>, antihypertensives and corticosteroids for lung maturation. Conclusion: after midwifery care on Ny. N 41 years 33 weeks pregnant with severe preeclampsia, placenta previa totalis, the general condition was good, better blood pressure, eclampsia did not occur, the patient had pregnancy termination at 35 weeks 5 days of gestation with sectio caesarea.

**Keywords:** severe preeclampsia, pregnant women, management of preeclampsia

### 1. INTRODUCTION

Health development in Indonesia still prioritizes effort to improve the degree of maternal and child health, especially in vulnerable groups to health, namely pregnant women, maternity mothers, and babies in the perinatal period. This priority is caused by the high number of Maternal Mortality Rate (MMR). In 2020 the MMR reached 230/100,000 live births. The main causes of such maternal death are approximately 75% due to bleeding, infection, preeclampsia, old partus and unsafe abortions.

Maternal mortality rate in Central Java during 015-2019 period decreased from 111.16/100,000 live births to 76.9/100,000 live births, of which 29.6% were caused by gestational hypertension, 24.5% due to bleeding, and 27.6% due to other diseases.

Meanwhile, in Semarang city, maternal death for the 2020 period were 17 cases, and in 2021 increased to 21 cases, a number that puts Semarang City in the 4th rank of the city with the highest maternal death in Central Java. (Dinas Kesehatan Kota Semarang, 2022).

Preeclampsia is a problem that has a high level of complexity and contributes to the cause of maternal death. It affects not only to the mother during pregnancy and childbirth, but also causes postpartum problems due to endothelial dysfunction in various organs. Long-term impact on a baby born to mother with preeclampsia is the baby will be born prematurely, disrupting all organs of the baby's growth (POGI, 2016).

The cause of preeclampsia is not known for sure until now, preeclampsia is also called the disease of theoris. Some of the risk factors that form the basis for the development of preeclampsia cases are age, primigravida, multigravida, distance between pregnancies, large fetuses and pregnancies with more than one fetus. The main objectives of preeclampsia treatment are preventing the occurrence of eclampsia, giving birth to babies without asphyxia, and preventing maternal and perinatal mortality.

One of the efforts that can be done to prevent worsening preeclampsia patient is screening the risk of preeclampsia for every pregnant woman



during ANC (Antenatal Care) in order to detect early preeclampsia, prevent the occurrence of complications and accelerate referrals to reduce morbidity and mortality in pregnant women.

Based on data obtained by the author, in 2021, there were 283 pregnant women with complications in hospitals of Semarang city. 34 patients of which were pregnant women with pre-eclampsia and 3 patients with eclampsia. Meanwhile, in January-April 2022 there were 91 cases of pregnant women with complications. 7 patients of which were pregnant women with pre-eclampsia and 2 cases of pregnant women with eclampsia.

As One of helping efforts from the author to accelerate the reduction of MMR is carrying out Obstetric Care in pregnant women patients with severe pre-eclampsia using a 7-step varney approach.

## 2. PATIENT IDENTITY

The patient is Mrs. N, age 41 years old. She has a bachelor degree, works as a teacher and lives in Gesing Kismantoro.

The main symptoms she often feels are sudden dizziness and swelling in both legs. This is her 3rd pregnancy, her first child is 15 years old. She has a history of miscarriage, has no hereditary diseases such as hypertension and DM, and has no infectious diseases such as hepatitis, tuberculosis and HIV/AIDS.

## 3. CLINICAL FINDINGS

Her general condition is good, awareness composmentis, Blood Pressure 165/110 mmHg, Respiratory Rate 20x/min, temperature 36.5 °C, Pulse 102x/min, TB: 160 cm, BB: 98.4 kg, LILA: 36cm, there are oedems on both right and left legs, patellar reflexes are positive, fetal palpation results have not entered PAP, TFU 26cm.

## 4. TIMELINE

Date and Time	Subjektif	Objektif	Assessment	Planning
30.06.22 09.20	Headache and both off leg are swollen	Blood pressure: 165/110 mmHg, Respiration: 20 x/min, Pulse: 102 x/min, Temperature: 36.5oC, TFU: 26 cm, head presentation, convergence, contractions: none, DJJ: 148 x/min, odema lower extremity.	Mrs. N 41 years old G3P1A1 gestational 33 weeks, single fetus, live, intrauterine, longitudinal location, presbo, puka with Severe Preeclampsia, Placenta Previa Totalis	<ol style="list-style-type: none"> <li>1. Informing the results of the examination to the mother and family that the mother has severe pre-eclampsia and Placenta Previa Totalis.</li> <li>2. Recommends the mother to reduce strenuous physical activity, which can lead to fatigue.</li> <li>3. Recommends the husband or family to give encouragement, motivation and prayers to the mother</li> <li>4. Collaborating with the SpOG doctor for the provision of therapi</li> <li>5. Explaining to the mother about the management of PEB patients according to the doctor's advice and asking for approval to the mother and family</li> <li>6. Providing therapy according to the doctor's advice</li> </ol>
01.07.22 13.30	Mom says headache is reduced, legs are still swollen, Mother says fetal motion is active	Blood pressure: 154/90 mmHg, Respiration: 20 x/min, Pulse: 80 x/min, Temperature: 36.6oC, DJJ: 142 x/min, Foot oedema still present, Installed infusion RL + MgSO4 20% 1gr/h (Syring Pump) Urine Takar 650 cc, turbid yellow color.	Mrs. N 41 years old G3P1A1 gestational 33 weeks, single fetus, live, intrauterine, longitudinal location, presbo, puka with Severe Preeclampsia, Placenta Previa Totalis	<ol style="list-style-type: none"> <li>1. Observation of general conditions, vital signs and DJJ</li> <li>2. Reminding mothers to stay at rest in alternating positions, supine, or tilted to the left</li> <li>3. Provide moral support and motivation to the mother</li> <li>4. Observing signs of eclampsia impending such as (blurred vision, nausea, vomiting, epigastric pain, severe headache and systolic &gt; 200 mmHg)</li> <li>5. Provide therapy according to the doctor's instructions</li> </ol>
03.07.22 09.00	The mother says she is no longer dizzy, the fetal	Blood pressure: 142/90 mmHg, Respiration: 20 x/min, Pulse: 88	Mrs. N 41 years old G3P1A1 gestational 33	<ol style="list-style-type: none"> <li>1. Observation of the general state, vital signs and DJJ</li> <li>2. Recommends to do low-salt diit, and the DASH (Dietary Approaches to Stop Hypertension) diit the</li> </ol>



Date and Time	Subjektif	Objektif	Assessment	Planning
	movement is active and the mother says she wants to go home	x/min, Temperature: 36.5oC, contractions: none, DJJ: 144x/min, Oedema extremity is still present	weeks, single fetus, live, intrauterine, longitudinal location, presbo, puka with Severe Preeclampsia, Placenta Previa Totalis	DASH diet is a diet rich in fruits, vegetables, whole grains, nuts, fish, and low-fat milk. 3. Providing moral support and motivation to the mother 4. Providing therapy according to the doctor's instructions, the patient allowed to go home 5. Recommending the mother to control blood pressure every day to the nearest health worker to where the mother lives 6. Explaining the danger signs of pregnancy TM 3 such as: bleeding a lot of pervaginam accompanied by sudden abdominal pain, amniotic rupture prematurely, high heat accompanied by convulsions, fetal movement is absent or reduced, and blurred vision, continuous heavy headaches. 7. Recommend that mothers control another 1 week or at any time if there are complaints

## 5. DIAGNOSTIC EXAMINATION

The supporting examination carried out is a urine protein examination with postal results (3 +) / 300mg / dldan. The result of ultrasound examination: Placenta Previa Totalis. The diagnosis of this case is severe preeclampsia, Placenta Previa Totalis, this diagnosis is supported by the theory according to Rahmawati (2020), Pre eclampsia is blood pressure of at least 140/90 mmHg in 2 examinations that are 4-6 hours apart in women who were previously normotensive after 20 weeks of isolation or in the post-early saline period accompanied by proteinuria at least positive 1 or quantitative protein examination showing results of > 300 mg.

## 6. DIAGNOSTIC

Based on subjective data and objective data, a diagnosis of Mrs. N aged 41 years G3P1A1 was 33 weeks gestational, single fetus, alive, intrauterine, longitudinal location, presbo, puka with Severe Preeclampsia, Placenta Previa Totalis. Where the problem of severe Preeclampsia arises, Placenta Previa Totalis, so that patients need collaborative actions with SpOG doctors for the administration of therapy. In the case of Mrs. N, there is a potential diagnosis caused, namely the potential for eclampsia and HELP syndrome.

## 7. INTERVENTIONAL THERAPY

The Intervention Given To Mrs. N Was 33 Weeks Pregnant With Severe Preeclampsia And Placenta Previa Totalis Principled On Expectative Management, The Main Objective Of Expectative Management Was To Improve Perinatal Output

By Reducing Neonatal Morbidity And Prolonging Gestational Life Without Harm To The Mother. Management Is Given By Encouraging Mothers To Reduce Strenuous Physical Activity, Which Can Cause Fatigue, Collaborating With Spog Doctors For The Administration Of Therapies, Iec To Mothers About The Management Of Peb Patients According To Doctor's Advice, Asking For Approval From Mothers And Families, And Providing Therapy According To Doctor's Advice: Install An Infusion Of Rl 20 Tpm, Inj MgSO4 20% 4gr IV (Loading Dose), Mgso4 20% 1 gr/H (Syring Pump), Inj Dexamethasone 2 X 6gr (2 Days) IV, Methyldopa 500mg (Po), Nifedipine 10mg (Po), DC, Transfer Patient To Vk Room For Conservative Therapy.

Giving of magnesium sulfate to preeclampsia aims to prevent and reduce the incidence of eclampsia, the mechanism of action is to cause vasodilation through relaxation of smooth muscles, including peripheral blood vessels and the uterus, so that it can be useful as an anticonvulsant, antihypertensive and tocolytic (Didien Ika Setyarini & Suprapti, SST., 2016).

Antihypertensive Methyldopa 500mg (per oral) and Nifedipine 10 mg (per oral), this is in accordance with the theory from POGI, 2016, that antihypertensives are recommended in preeclampsia with a systolic blood pressure  $\geq$  160 mmHg or diastolic  $\geq$  110 mmHg. The results of a study conducted by Shafinaz Nabila (2018) showed that the most widely used antihypertensive drugs in severe preeclampsia patients were methyldopa (46%) and a combination of nifedipine and methyldopa (44%). Dosage regimention in accordance with



guidelines. The interaction occurred due to concomitant use of nifedipine and MgSO<sub>4</sub>. The results of the therapy showed that 57% of patients had reached the target of therapy with systolic blood pressure <140 mmHg.

Corticosteroid is administered for pulmonary maturation, administered at  $\leq$  34 weeks gestational age to lower the risk of RDS and fetal and neonatal mortality. In patient Mrs. N the corticosteroid given was dexamethasone at a dose of 2x6 gr, administered IV, in 2 days. According to POGI, in 2016, betamethasone administration provided a greater reduction in RDS than dexamethasone, but the drug was not available at Tugurejo Hospital so dexamethasone was used as a pulmonary maturation therapy.

## 8. FOLLOW-UP AND RESULTS

Mrs. N responses to the expectative therapy administered. This result can be seen in the progression records during treatment at the Hospital which show subjective data on reduced dizziness complaints, and objective data showing a decrease in systolic blood pressure < 160 mmHg and diastolic < 110 mmHg during the treatment period. Mrs. N is allowed to go home on the third day, then it is recommended to keep monitoring the tension at home and re-examine it once every 1 week. The doctor's decision to terminate the pregnancy at gestational age of 35 weeks and 5 days with the consideration that the mother had an increase in TD 189/118 mmHg, complained of dizziness and swollen legs, an estimated fetal weight of 2480 gr, and had previously been given corticosteroids for fetal lung maturation. Termination of pregnancy is done with SC because the mother has placenta previa which is a contra indication of spontaneous partus

## 9. CONCLUSION

The Obstetric Care given shows that a good general state, blood pressure drops, no eclampsia occurs, the patient has been carried out collaborative actions and termination of pregnancy with sectio caesarea.

## 10. INFORMED CONSENT

Informed consent had been done on June 30, 2022 and the patient is willing to be a respondent.

## REFERENCES

- Ayuni, Nadila Putri. 2019. "Plasenta Previa Sebagai Faktor Protektif Kejadian Preeklamsia Pada Ibu Hamil Placenta Previa As A Protectif Factor For Preeclampsia In Pragnancy Artikel Info." *Placenta Previa As A Protectif Factor For Preeclampsia In Pragnancy* 10(2):79–84. doi: 10.35816/jiskh.v10i2.113.
- Bardja, Sutiati. 2020. "Faktor Risiko Kejadian Preeklampsia Berat / Eklampsia Pada Ibu Hamil Risk Factor for The Occurrence of Severe Preeclampsia / Eclampsia in Pregnant Woman." *Jurnal Kebidanan* 12(January):18–30.
- Didien Ika Setyarini, M. Keb., and M. Kes. Suprapti, SST. 2016. *Asuhan Kebidanan Kegawatdaruratan Maternal Neonatal*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Dinas Kesehatan Kota Semarang. 2022. "DKK Semarang Dashboard."
- Dinas Kesehatan Provinsi Jawa Tengah. 2019. "Profil Kesehatan Provinsi Jateng Tahun 2019." *Dinas Kesehatan Provinsi Jawa Tengah* 3511351(24):61.
- Dinas Kesehatan Kota Semarang. (2020). *Laporan Tahunan Program KIA*.
- English, F. A., Kenny, L. C., & McCarthy, F. P. (2015). Risk factors and effective management of preeclampsia. *Integrated Blood Pressure Control*, 8, 7–12. <https://doi.org/10.2147/IBPC.S50641>
- F. Gary Cunningham, M. (2013). *Obstetri William Edisi 23 Volume 2 (23rd ed.)*. EGC.
- Farhana Fitri Amalia. 2020. "Pengaruh Penggunaan MGSO<sub>4</sub> Sebagai Terapi Pencegahan Kejang Pada Preeklampsia." *Jurnal Ilmu Kedokteran Dan Kesehatan Volume 7*.
- Foundation, Bill &. Melinda Gates. 2021. *GoalKeepers\_2021\_Maternal\_Mortality.Pdf*.
- Jean-Ju Sheen, Yongmei Huang, Jason D. Wright, and Alexander M. Friedman Dena Goffman, Mary E. D'Alton. 2019. "Maternal Age and Preeclampsia Outcomes." *American Journal of Obstetrics & Gynecology*.
- Kemenkes RI. (2019). *Profil Kesehatan Indonesia tahun 2019*. In *Short Textbook of Preventive and Social Medicine*. [https://doi.org/10.5005/jp/books/11257\\_5](https://doi.org/10.5005/jp/books/11257_5)
- Kemenkes RI. 2020. "Profil Kesehatan Indonesia 2020." jakarta.



- Laleno, D. C. 2018. "Preeklampsia Berat Dan Eklampsia: Tatalaksana Anestesia Perioperatif." Pp. 7–20 in Deepublish.
- Nabila, Shafinaz. 2018. "Studi Penggunaan Antihipertensi Pada Pasien Preeklampsia Berat."
- Ningsih, Fitria. 2020. "Kepatuhan Antenatal Care Dengan Kejadian Preeklampsia Pada Ibu Hamil Di Puskesmas Kayon Kota Palangkaraya." *Jurnal Surya Medika* 6(1):96–100.
- POGI. 2016. "PNPK Diagnosis Dan Tatalaksana Preeklampsia." 1–48.
- Putri, Diana, Agung Nova Mahendra, Agung Wiwiek Indrayanti, and Gede Wirata. 2020. "Profil Pemberian Nifedipine Kombinasi Metildopa Dan MgSO<sub>4</sub> Pada Pasien Pre-Eklamsi Berat Di Rumah Sakit Daerah Mangusada Badung." *Intisari Sains Medis* 11(3):1222–29. doi: 10.15562/ism.v11i3.690.
- Rahmawati Rizki. 2020. "Faktor Faktor Yang Mempengaruhi Preeklampsia: Literatur Riview." 5–12.
- Rahyani, N. dkk. 2020. *Buku Ajar Asuhan Kebidanan Patologi Bagi Bidan*. Penerbit Andi.
- Soomro, Shoaibunnisa, Raj Kumar, Hazooran Lakhani, and Faizan Shaukat. 2019. "Risk Factors for Pre-Eclampsia and Eclampsia Disorders in Tertiary Care Center in Sukkur, Pakistan." *Cureus* 11(11). doi: 10.7759/cureus.6115.
- Tonasih, and Diyanah Kumalasary. 2020. "Analisa Determinan Yang Berhubungan Dengan Preeklampsia Berat Pada Ibu Hamil." *Jurnal SMART Kebidanan* 7(1):41. doi: 10.34310/sjkb.v7i1.298
- WHO. (2017). *Monitoring the Health-Related Sustainable Development Goals (SDGs)*. February, 3.
- WHO. (2013). *Calcium Supplementation In Pregnant Women*.
- WHO. (2019). *Trends in Maternal Mortality: 2000 to 2017*. <https://data.worldbank.org/indicator/SH.STA.MMRT?locations=ID>
- Widiastuti, R. O., Wijaya, S. M., & Graharti, R. (2018). *Suplementasi Kalsium selama Kehamilan sebagai Pencegahan Kejadian Preeklampsia*. *JUKE: Jurnal Kedokteran*, 7(3), 207–210. <https://juke.kedokteran.unila.ac.id/index.php/majority/article/view/2078>