



A CASE REPORT ON SEVERE PREECLAMPSIA AND ASSOCIATED COMPLICATION

Nursing

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ABSTRACT

Introduction: Preeclampsia is a multisystem syndrome that is primarily defined by the development of new-onset hypertension, persistent systolic blood pressure [SBP] of 140 mm Hg or higher, or diastolic blood pressure [DBP] of 90 mm Hg or higher after 20 weeks' gestation in a woman with previously normal blood pressure.¹ Although preeclampsia is usually accompanied by new-onset proteinuria. **Main Symptoms And/or Important Clinical Findings:** A 34-year-old woman with 29 week pregnancy admitted in obs ward no 11 in AVBRH hospital Sawangi Meghe wardha with complaining of increased blood pressure that is 160/90 mmHg with chief complaining of dyspnea, expressed cyanosis, tachycardia, and epigastric pain. At the time of admission blood pressure was increased up to 160/95 mmHg; pulse was 105 beats per minute, oxygen saturation was 96. On physical examination, Skin and mucous membranes were pale. According to all specific findings shows that the patient was treated by preeclampsia, from week 25 of gestation. Laboratory findings; hemogram was normal. **The Main Diagnosis, Therapeutic Interventions, And Outcomes:** A 34-year-old woman pregnancy with 29 week admitted in Avbrh hospital Sawangi Meghe with chief complaining of increased blood pressure by 160/95mmHg, in Department of Obstetrics and Gynecology, with 29 weeks' gestation with complaining of dyspnea, expressed cyanosis, tachycardia, and epigastric pain. At the time of admission blood pressure was increased up to 160/95 mmHg; pulse was 105 beats per minute, oxygen saturation was 96, with diagnosed severe preeclampsia patients with preeclampsia, for better maternal as well as perinatal outcome. Clinician must perform detailed assessment along with thorough history taking (including the symptoms of severe preeclampsia) and physical examination. Laboratory tests such as a complete blood count with platelet count, and assessment of serum creatinine and liver enzymes levels, evaluation for urine protein (24-hour collection or protein/cretonne ratio) may aid to establish the diagnosis. **Conclusion:** This case report of patient with 29 weeks of pregnancy, dyspnoea, expressed cyanosis, tachycardia, and epigastric pain to our clinical center. She developed complications associated with severe preeclampsia and unfortunately ended up with fatal outcome a over 10 days of cesarean delivery post-partum, despite of timely diagnosis and adequate management. Preeclampsia/eclampsia is associated with substantial maternal complications, both acute and long-term. Clear protocols for early detection and management of further complication in this types of cases.

KEYWORDS

Severe Preeclampsia; Postpartum; Complication.

INTRODUCTION



Hypertension in pregnancy at all levels of health care are required for better maternal as well as prenatal outcome. Preeclampsia is clinically defined by hypertension and proteinuria, with or without pathologic oedema that occurs after 20 weeks' gestation, but can also present up to 4-6 weeks post-partum. Worldwide, incidence of preeclampsia is 5-14 percent of all pregnancies, while severe preeclampsia can develop to about 25 percent of all cases of preeclampsia.^{1} severe preeclampsia is a pathology characterized by endothelial dysfunction that can often be complicated, and thus may lead to liver and renal failure, disseminated intravascular coagulopathy (DIC), and central nervous system (CNS) abnormalities. Worldwide, preeclampsia and eclampsia is responsible for about 14 percent of maternal deaths per year. We present a case, from our clinic, which had serious complications timely diagnosis and therapy for preeclampsia is clinically defined by hypertension and proteinuria.

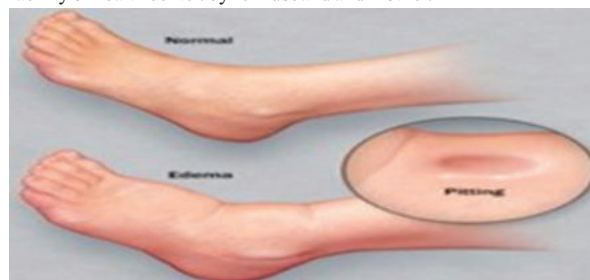
Patient Information:

A 34-year-old woman with 29 week pregnancy admitted in obs ward no 11 in AVBRH hospital Sawangi Meghe wardha with complaining of increased blood pressure that is 160/90 mmHg with chief complaining of dyspnea, expressed cyanosis, tachycardia, and epigastric pain. At the time of admission blood pressure was increased up to 160/95 mmHg; pulse was 105 beats per minute, oxygen saturation was 96. On physical examination, Skin and mucous membranes were pale. According to all specific findings shows that the patient was treated by preeclampsia, from week 25 of gestation. Laboratory findings; hemogram was normal,

History Of Current Pregnancy

The current pregnancy was her gestational age of approximately 29 weeks. The mother explained as her gestational age increased, she started to developed generalized body swelling that started from her eyes, then face, and eventually migrated to her legs, she had history of

blurred vision and headache so she taken helped to nearby health facility of health center. byher husband and mother.



Primary Concerns And Symptoms Of The Patient:

Both preeclampsia and eclampsia can cause serious health problems for the mother and infant, women with preeclampsia are at increased risk for damage to the kidneys, liver, brain and other organ and blood system. preeclampsia may also affect the placenta. A 34-year-old woman pregnant admitted in Avbrh hospital Sawangi Meghe Wardha with complaining of increased blood pressure in Department of Obstetrics and Gynecology, with 29 weeks' gestation with chief complaining of dyspnoea, expressed cyanosis, tachycardia, and epigastric pain. on admission her blood pressure was raised by 160/95 mmHg; pulse of 100 beats per minute, oxygen saturation was 96%.^{3}



Medical History, Family, And Psycho-social History:

There was no any past medical history like tuberculosis, asthma or no any surgery done in past and no any psychological history according to herself and her whole family members. She was a 28-years-old married, multigravida lived in a rural area, she had no formal education and her livelihood was pastoralist. She was categorized into a low socioeconomic class, according to her mother patient is very good nature and her interpersonal relationship with neighbor and other people in society was very good according to her relatives.

Relevant Past Interventions With Outcomes:

There was no any relevant past intervention according to patients and relatives who given past medical and surgical history, patient was alright before pregnancy ,she had no any history of hypertension or Diabetic. so no any outcomes reported. The severity of preeclampsia strongly impacts this risk. Women with severe features of preeclampsia in the second trimester are at greatest risk of developing preeclampsia in a subsequent pregnancy: Recurrence rates of 25 to 65 percent have been reported By comparison, women with preeclampsia without severe features in their first pregnancy develop preeclampsia in 5 to 7 percent of second pregnancies Women who had a normotensive first pregnancy develop preeclampsia in less than 1 percent of second pregnancies.

Clinical Findings:

On her admission complete physical examination was done. Increased blood pressure 160/95mmHg with 39 weeks' gestation and dyspnoea, expressed cyanosis, tachycardia, and epigastric pain. pulse of 105 beats per minute, oxygen saturation was 96. On physical examination, foetal heart sound was 120 to 130 beat. ,Early detection/diagnosis and appropriate management is extremely important in patients with preeclampsia, for better maternal as well as perinatal outcome. {4} Clinician must perform detailed assessment along with thorough history taking including the symptoms of severe preeclampsia and physical examination. Laboratory tests such as a complete blood count with platelet count, and assessment of serum creatinine and liver enzymes levels, evaluation for urine protein 24-hour collection or protein/creatinine ratio may aid to establish the diagnosis. Fetal evaluation should be performed including ante partum fetal surveillance urine analysis (protein 1+). Biochemical laboratory tests: {5}

Significant Physical Examination (PE) And Important Clinical Findings.

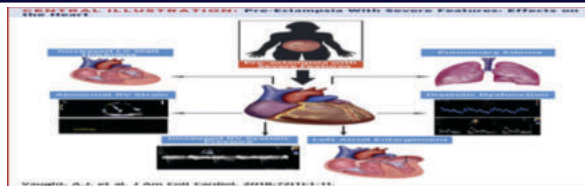
On general examination patient was conscious, oriented, in physical examination her blood pressure was increased by 160/96mmHg. no any seizures were present along with some combination of proteinuria and edema in physical examination may include systolic Blood pressure was 160mmHg and above and diastolic Blood Pressure was 96mmHg respectively noted and pulse was 100 beat /min and above reported ,foetal heart sound was normal that was 120 beat /min. Clinician must perform detailed assessment along with thorough history taking including the symptoms of severe preeclampsia and physical examination. {6} Laboratory tests such as a complete blood count with platelet count, and assessment of serum creatinine and liver enzymes levels, evaluation for urine protein 24-hour collection or protein/creatinine ratio may aid to establish the diagnosis. Fetal evaluation should be performed including ante partum fetal surveillance urine analysis (protein 1+). Biochemical laboratory tests

Timeline:

The patient was pregnant and the complaint started in 25th week of pregnancy with epigastric pain, severe headache, edema and blurred vision, intermittent contractions and discomfort in perineal area due to with swelling. Blood pressure was raised by 160/100mmHg, pulse was 96 beat/min, and oxygen saturation was 98, and foetal heart rate was 120, 130 beat /min. {7}

Historical And Current Information From This Episode Of Care Organized As A Timeline

A 29-year-old woman pregnant admitted in Avbrh hospital Sawangi Meghe with complaining of increased blood pressure in Department of Obstetrics and Gynecology, with 29 weeks' gestation and dyspnoea, expressed cyanosis, tachycardia, and epigastric pain. At the admission blood pressure of 160/95 mmHg; pulse of 100 beats per minute, oxygen saturation was 96 with diagnosed severe preeclampsia, immediately after admission patients all necessary blood investigation done Complete blood count with platelets, Serum creatinine level Liver chemistries (aspartate aminotransferase [AST], alanine aminotransferase [ALT]) Urinary protein determination (protein to creatinine ratio in a random urine specimen or 24-hour urine collection for total protein) Coagulation studies (prothrombin time, partial thromboplastin time, fibrinogen) are not routinely obtained but are indicated in patients with additional complications, such as abruptio placentae, severe bleeding, thrombocytopenia, or severe liver dysfunction.



Fetal status is assessed concurrently with the maternal evaluation or post-diagnosis, depending on the degree of concern when the mother is evaluated. At a minimum, a nonstress test or biophysical profile is performed, if appropriate for gestational age. Ultrasound is indicated to evaluate amniotic fluid volume and estimate fetal weight given the increased risk for oligohydramnios and fetal growth restriction (FGR). ,radiological investigation done ultrasonography and colour Doppler ,foeta l Doppler ,NST done ,patient had given fowlers position and started oxygen with 2lit/min as per doctors order, elevation of foot and antihypertensive medicine tab Aldomate 500 mg given tds ,cap Depin 5mg given sublingually ,inj mgso4 magnesium sulphate 4gm in each buttocks and 5gm diluted with distil water and given intravenous as per stat order by doctor with z-track technique. 8} Medication started from day-1. Magnesium Sulphate dressing done on day-2. Oedema reduced by day-3 and 4. Diagnostic testing (such as PE, laboratory testing, imaging, surveys) Repeated ultrasonography revealed a normal foetus in the uterine cavity ,all complete blood test done CBC, assessment of serum creatinine and liver enzymes levels, evaluation for urine protein 24-hour collection or protein/creatinine ratio may aid to establish the diagnosis. Fetal evaluation should be performed including ante partum fetal surveillance urine analysis (protein 1+). Biochemical laboratory tests, for foetal monitoring her non stress test was done ,foetal heart rate was normal it was 120, 130 beat/min. Repeated ultrasonography and ,all blood investigation done Complete Hemogramme and Urine tests were done. {9}

Diagnostic Challenges (such As Access To Testing, Financial, Or Cultural)

Diagnostic Challenges were faced because her socio economical condition was not good so patients convert in suman card in this scheme all investigation done in free of cost and it helped in free normal delivery and caesarian section as well as its benefit for newborn baby treatment . For all other testing and examination she was very cooperative.

Diagnosis:

ANC 29 week pregnancy primi gravida with preeclampsia

Prognosis: Good to fair

Therapeutic Intervention

Administration of therapeutic intervention (such as dosage, strength, duration). In the present pregnancy associated with preeclampsia, tocolytics (tab. nifedipine 10 mg TDS) were started. Tab aldomet 500mg Tds ,cap Autrine 500mg od, tab shelcal 500mg bd, tab becasule 10d, tab limcee 10d, inj . magnesium sulphate sos ,Blood pressure monitoring strictly, FHS monitoring 1 hourly, and oxygen saturation monitoring , oxygen inhalation 2lit/min strictly maintain as per Doctors order. All necessary blood investigation done on time to time ,informed written consent taken with signature of her husband for preeclampsia and all necessary complication may be possible during and after delivery like convulsion may occurs and for intrauterine death may be occurs if Blood pressure not in control her emergency caesarian section will be done.

Changes In Therapeutic Intervention (with Rationale):

In therapeutic intervention there were some changes would be occurs like after her admission ,her complete blood investigation was done ,radiological investigation done ,complete physical assessment was done so according to her all blood and radiological investigation Doctor advised to keep patient in Eclampsia room for further management and prevention of photophobia, because Eclampsia room is already dark coloured and so it will be helped to protect the patient from further complication like photophobia,

Clinician And Patient-assessed Outcomes (If Available):

In spite of all care patient progressed into active side and her blood pressure was being in normal site her proteinuria are normal edema also minimized and as per patients feedback headache and epigastric pain also minimized patient general condition was better than previously

when on admission, when patient come for follow up in gyn opd on the 20th day conveyed that on standing or walking there was no any problem and she was happy with all conservative management and treatment as per Doctor given these all are very beneficial for her and her baby health. In spite of all care patient progressed is good.

Important Follow-up Diagnostic And Other Test Results:

At the time of discharged patient advised for strictly follow up regularly and take salt restricted diet ,low spicy diet ,high protin,calcium and iron rich supliment diet ,for avoid constipation take plenty of oral fluids and one glass of milk at the time of sleep To avoid lifting heavy weight, to prevent constipation and controlled coughing. Strictly avoid travelling and heavy work.

Intervention Adherence And Tolerability (How Was This Assessed?)

We have examined prospectively whether the combined approach of establishing tolerance intervals for the circadian variability of blood pressure (BP) as a function of gestational age, and then determining the so-called hyperbaric index (area of BP excess above the upper limit of the tolerance interval) by comparison of any patient's BP profile (obtained by ambulatory monitoring) with those intervals provides a high sensitivity test for the early detection of pregnant women who subsequently will develop gestational hypertension or preeclampsia. Despite the limitations of ambulatory monitoring, the approach presented here, now validated prospectively, represents a reproducible, noninvasive, and high sensitivity test for the very early identification of subsequent gestational hypertension and preeclampsia, on the average, 23 weeks before the clinical confirmation of the disease.

DISCUSSION

A Scientific Discussion Of The Strengths And Limitations Associated With This Case Report

Diagnosis related all blood investigation and radiological investigations has a very important role in the evaluation and further plan of management. It provides information regarding patient's present status and all information regarding her pregnancy and complication. Patients with preeclampsia, for better maternal as well as perinatal outcome. Clinician must perform detailed assessment along with thorough history taking (including the symptoms of severe preeclampsia) and physical examination. Laboratory tests such as a complete blood count with platelet count, and assessment of serum creatinine and liver enzymes levels, evaluation for urine protein (24-hour collection or protein/creatinine ratio) may aid to establish the diagnosis. Fetal evaluation should be performed including ante partum fetal surveillance.

Discussion Of The Relevant Medical Literature:

Reeclampsia is a complex disease with multiple causes and interactions leading to its clinical manifestation. Its intractability to effective treatment (apart from delivery of the placenta) makes it an area of considerable scientific inquiry with important implications for women's health worldwide. The heightened risk of preeclampsia in first pregnancies and in women who undergo in vitro fertilization with donor eggs have led to numerous investigations regarding a potential role of the immune system and paternal genetic influences. Preeclampsia is generally understood to be an immunologic and inflammatory condition that involves the process of placentation, but the underlying causes, precipitating factors, and conditions are not fully understood.

Preeclampsia may develop through different processes that can occur either alone or in combination. "Placental" disease may lead to earlier onset and more severe disease, while "maternal" disease may result in later-onset disease. Placental preeclampsia is thought to arise from problems with the process of placentation whereby trophoblast cells fail to fully activate transformation of uterine spiral arteries (at about 12 to 16 weeks' gestation), resulting in placental ischemia. This relative ischemia and lowered placental perfusion could cause the release of damaging factors (e.g., cellular debris, oxidized lipids, antiangiogenic factors) into the maternal bloodstream, resulting in inflammation and oxidative stress. In contrast, maternal preeclampsia is thought to involve overactive inflammatory responses to normal placentation. Preexisting hypertension, diabetes, and other inflammatory conditions (e.g., lupus) as well as twin or higher-order pregnancies are thought to precipitate a systemic inflammatory response and oxidative stress process. Consistent with this theory,

women with early-onset placental preeclampsia exhibit abnormal uterine artery ultrasound Doppler readings and placental morphology compared with women without preeclampsia or later-onset disease. Adding to the complexity, maternal and environmental factors may also contribute to the risk of developing placental preeclampsia. Preeclampsia is a condition observed during pregnancy and threatens the life of both mother and fetus. There are studies, which suggest platelets play a major role in the pathogenesis of pre-eclampsia. The aim of this study is to compare the complete blood count (CBC) parameters, especially platelet count and mean platelet volume (MPV), in pre-eclamptic and normal pregnant women and to evaluate whether these parameters have a prognostic significance in determining the severity of eclampsia. The study and control groups consist of 56 pre-eclamptic and 43 normal pregnant women, respectively. There was no statistically significant difference according to CBC, platelet count and MPV when pre-eclamptic and severely pre-eclamptic patients were compared with controls. As a result, we observed no prognostic significance of CBC, platelet count and MPV on the presence and/or severity of pre-eclamptic condition. There are conflicting results especially on the significance of MPV in the literature, and possibly this conflation is due to the difference between methods and/or equipments used for automated blood count.10}

CONCLUSION:

Hypertensive disorders are the most common medical complication of pregnancy. The spectrum of disease ranges from mildly elevated blood pressure with minimal clinical significance to severe hypertension and multiorgan dysfunction. The incidence of disease is dependent on many different demographic parameters, including maternal age, race, and associated underlying medical conditions. Understanding the disease process and the impact of hypertensive disorders on pregnancy is of the utmost importance, because these disorders remain a major cause of maternal and perinatal morbidity and mortality worldwide. Patients with preeclampsia have increased cardiovascular risk, necessitating lifestyle measures and long-term follow-up. Etiological assessment must be carried out, systematically aiming at the detection of promoting underlying diseases and adaptation of the management of subsequent pregnancies.

This study found that previous pregnancy situation may repeat it self in the future pregnancies. Moreover, the health administrators use the ambulance for administrative purposes rather than for emergency health issues. On a positive note, attending a health facility is an opportunity for a mother to learn about existing health services in the facility such as family planning and the importance of ANC. This case report of patient with 29 weeks of pregnancy, dyspnoea, expressed cyanosis, tachycardia, and epigastric pain to our clinical center. She developed complications associated with severe preeclampsia and unfortunately ended up with fatal outcome a over 10 days of cesarean delivery post-partum, despite of timely diagnosis and adequate management. Preeclampsia/eclampsia is associated with substantial maternal complications, both acute and long-term. Clear protocols for early detection and management of further complication of such a case.

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