

Original Article



A Bizarre Cause of Delay in Category 1 Indication for Emergency Caesarean Section.

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Abstract:

The National guidelines of most developed countries suggest a target of 30 minutes of the decision to delivery interval for category 1 emergency cesarean section. Such guidelines may not be feasible in poorly resourced countries and busy obstetric settings. Traditionally, category 1 emergency cesarean section is performed within 30 minutes of taking the decision in order to reduce maternal and perinatal morbidities and mortalities. Outside this time frame, adverse pregnancy outcome increases significantly. In low resource countries, women have limited powers in taking decisions over their own health and that of their children, irrespective of their education status. When their husbands are not around, this further increase decision-intervention intervals with possible increased risk of feto-maternal morbidities and mortalities. We report a case of a booked 27 years old primigravida, a Legal Practitioner, who developed severe preeclampsia at gestational age of 35 weeks and 6 days. The mother's condition necessitated an emergency caesarean section and she was counseled for the operation but could not consent because her husband, who is a Pastor and was at the middle of his was not around to give consent for the surgery. The surgery was done 3 hours and 30 minutes after the decision was taken. Intra-operative findings revealed mild placenta abruption, which actually was a maternal and perinatal near-miss.

Keywords: Category 1, caesarean section, delay, maternal, perinatal, preeclampsia

Introduction

African cultures are traditionally patriarchy, with significant male dominance. Women's abilities to actively participate in decision-making about their own health are essential for their reproductive, physical, and psychological well-being and for that of the next generation¹. In Sub-Saharan Africa (SSA), women's participation in health decision-making is among the lowest in the world, and women commonly report that their husbands make decisions about their own health without

their participation,^{2,3} irrespective of their level of education. The inability of a woman to make decision in critical situations often result in prolonged decision to delivery interval and has statistically significant association with composite adverse perinatal outcomes.

The National guidelines of most developed countries suggest a target of 30 minutes of the decision to delivery interval for emergency cesarean section. Such guidelines may not be

feasible in poorly resourced countries and busy obstetric settings⁴. Traditionally, Nigerian women are unwilling to have CS because of the general belief that abdominal delivery is a reproductive failure on their part regardless of the decreasing mortality that is associated with caesarean sections⁵. Maternal mortalities is significantly higher in developing countries as 94% of all maternal deaths occur in low and lower middle-income countries,⁶ where health indices are further hampered by paucity of standard health facilities, ignorance, poverty and poor health financing. The lifetime risk of maternal death in high income countries is 1 in 5400, versus 1 in 45 in low income countries⁶. The main factors that prevent women from receiving or seeking care during pregnancy and childbirth in the middle and low income countries includes poverty, distance to facilities, lack of information, inadequate and poor quality services together with cultural beliefs and practices. These are further compounded by inability of a woman to take appropriate decisions on their health when needed, especially when their husbands are not available.

Case Report

We present a booked 27 years old Legal Practitioner, a primigravida that hailed from Mbano in Imo State of Nigeria and resides at No 2, Omeka Street in Abakaliki. A Christian, and a Pentecostal. The last menstrual period was 14/12/2021, with estimated gestational age of 35 weeks and 6 days at presentation.

She presented to our Obstetrics Accident and Emergency Unit with a recurrent headache of 2 days duration and blurring of vision of 1 day duration. The headache that was non-throbbing, generalized and worsen with the movement of the head. There was associated blurring of vision which started about 24 hours after the onset of the headache. There was no associated vomiting, fainting attack, convulsion or loss of consciousness. She had no history of epigastric pain, flank pain and urine output was normal. She was not a known diabetic patient, had no history suggestive of chronic medical illness or antiphospholipid syndrome. Pregnancy was conceived spontaneously, and she was not on any regular medications.

The index pregnancy was booked at GA of 9 weeks and 4days and she had regular antenatal

clinic visits. Her booking parameters included blood pressure of 120/80mmHg, weight of 75kg and height of 1.66m. Booking investigations included packed cell volume of 36%, blood group B 'Rh' D positive, genotype AS. Serology for HbsAg, retroviral screening and VDRL were all negative. Urinalysis was normal and booking ultrasound confirmed single intrauterine fetus at a gestational age of 9 weeks and 4 days. She had antenatal clinic visit every 4 weeks till 28 weeks gestation and every 2 weeks thereafter. She was on hematinics and had intermittent preventive therapy for malaria 4 weekly from 13 weeks gestation. Pregnancy was uneventful until 30 weeks 4 days gestational age when her blood pressure recorded on two different occasions, more than 6 hours apart were discovered to be elevated. A value of 170/100mmHg was obtained on both occasions. Urinalysis showed no proteinuria, with normal parameters. Liver function test and serum electrolytes, urea and creatinine together with uric acid level were within normal limits, FBS was 3.5mMol/L and 2 hours post-pandrial was 7.3mMol/L. A Diagnosis of gestational hypertension was made and she was placed on tab labetalol 200mg twice a day for one week.

A week later, the patient had no complaint and her blood pressure was 130/90mmHg. She continued her antihypertensive and was seen in antenatal clinic every week. At 34 weeks and 4 days, her blood pressure was 160/100mmHg and urinalysis still showed no proteinuria. She had no symptoms, and scheduled for admission into the antenatal ward for proper care but she declined hospital admission despite proper counselling. Tab Nifedipine 20mg twice a day was added to her medications. Patient was seen a week later and her blood pressure was still 160/100mmHg, she had 2++ of proteinuria and an assessment of severe preeclampsia was made. However, biophysical profile was 8/10 using bedside ultrasound. Patient still declined hospital admission and termination of pregnancy despite proper counselling. Two days later, she presented in Obstetrics emergency with worsening headache and blurring of vision.

She attained menarche at 13 years and had a regular menstrual flow of 4 days in a regular 28 days cycle. No history of menorrhagia or dysmenorrhea. She was aware of contraceptives but uses none. She was married to a clergy-man in

a monogamous family setting. She had no family history of hypertension, diabetes, asthma or epilepsy.

At presentation, she was a young woman who was in occasional painful distress, not pale, anicteric, acyanotic, afebrile and had nil pedal edema. The blood pressure was 140/90mmHg, pulse rate was 100 beats per minute, and 1st and 2nd heart sounds were heard and there was no added sounds. Her respiratory rate was 22 cycles per minute, the chest was clear clinically. Abdomen was gravidly enlarged with a symphysiofundal height of 35cm that corresponded to a 35 weeks gestation and compactible with her gestational age of 35 weeks and 6 days. The uterus harboured a single fetus in longitudinal lie and cephalic presentation. The head was 5/5 palpable per abdomen. There was no palpable contractions and fetal heart rate was 142 beats per minute. The vaginal examination revealed a posterior, closed, firm and uneffaced cervix, at station 0⁻³.

She was admitted and Laboratory investigations results were packed cell volume of 34%, white cell count of $10.1 \times 10^6/\text{ml}$, (neutrophils – 76%, lymphocytes – 22%, eosinophil – 2%), absolute platelets count of $191 \times 10^3/\text{ml}$. Liver function test revealed total bilirubin of 7.7 (5-21) $\mu\text{mol/L}$, alanine transaminase of 5 (3-15) iu/L , aspartate transaminase of 15 (5-18) iu/L . Serum electrolytes, urea and creatinine showed sodium of 135 (135-145) $\mu\text{mol/L}$, potassium – 3.7 (3.5-5.0) $\mu\text{mol/L}$, chloride – 103 (98-107) $\mu\text{mol/L}$, urea – 2.1 (2.1-8.2) mmol/L and creatinine – 97 (44-130) mmol/L , serum uric acid was 3.2 (2-6) mg/dl . Urinalysis showed 3+ proteinuria, pH and other parameters are normal. An urgent ultrasound done showed a single fetus with good cardiac activities, fetal heart rate was 156/min, biparietal diameter, abdominal circumference and femur length, all corresponded to an average gestational age of 35 weeks and 4 day. Estimated fetal weight was 2.5kg. Biophysical profile was 8/10, CTG was not done. There was no retroplacental collection. Bed side clotting time was 6 minutes. The prothrombin time was 11 (11-14) seconds and activated partial thromboplastin time was 38 (30-40) seconds

Patient was counseled on the diagnosis, management options and possible complications, including the fact that preeclampsia is a progressive disease and the need to deliver the

baby before term. She consented to care and she was admitted. Intravenous magnesium sulphate was given according to Pritchard regimen, her antihypertensives were continued, intravenous crystalloid was commenced and urethral catheter was applied to monitor urine output. Six hours into admission, the headache had not subsided, the blood pressure was 160/110mmHg, and fetal heart rate was 158 beats per minutes. Intravenous hydralazine 10mg was given over 15 minutes. Tab aldomet was introduced at 500mg 6 hourly and she was counseled on termination of pregnancy but the patient declined, claiming her pregnancy was not yet term. The blood pressure within the first 12 hours of admission ranged between 160-200/90-110 mmHg. Intravenous hydralazine 10mg was given slowly over 15 minutes each time the systolic blood pressure was $\geq 160\text{mmHg}$ and diastolic blood pressure is $\geq 110\text{ mmHg}$. The fetal heart rate ranged between 148 and 158 beats per minute.

At 16 hours into admission, the blood pressure was 200/110 mmHg was recorded, the uterus appeared tonically contracted, with fetal heart rate of 160/minutes. She had mild bleeding per vaginuum and a diagnosis of mild abruption placenta was made. The theatre was booked, anaesthetists and neonatologists were informed. Patient still could not consent for the surgery. This was around 8am on a Sunday morning. The difficulty in obtaining consent to terminate the pregnancy and the rapid rate of progression of her condition was communicated to the unit head, a professor who came to review the patient immediately. After proper counsellings and persuasions, patient later agreed to be delivered by caesarean section but refused to consent to the surgery, claiming she cannot consent until her husband agrees. Intranasal oxygen was commenced, intravenous fluids continued and she was encouraged to lie in left lateral position. The husband was called on several occasions by the patient, the unit head and other unit consultants, but he declined all the calls. The wife sent a text message to the husband but there was no reply. She later called a Church Minister who picked the call and said the husband was preaching and will not be able to pick any call. The church Minister was instructed to write a small note indicating that the patients condition was deteriorating and that doctors needed his attention in the hospital

immediately, and that she should give it to the husband. The Minister did as she was directed but still, there was no response from the husband. We continued monitoring both fetal and maternal vital signs every 30 minutes. After about 3 hours and 15 minutes of waiting and repeated calls, the husband picked the call and later showed up. He gave consent for the surgery to be performed. The patient was then taken to the theatre for emergency caesarean section.

The patient had caesarean section 3 hours and 30 minutes after the decision for surgery was made. Intraoperative findings included clean peritoneal cavity, well-formed lower uterine segment, a life male neonate that weighed 2.25kg with APGAR Score of 8 in one minute and 10 in the 5th minute, Placenta delivered by controlled cord traction with a retroplacental cloths of 100mls. Both ovaries and fallopian tubes were normal bilaterally, the estimated blood loss was 400mls. Immediate post-operative condition was satisfactory but for elevated blood pressure of 140/90mmHg. Oxygen saturation was 98% in the room air, pulse rate of 78/min and respiratory rate of 20 cycles per minute. She was monitored for two hours in the recovery room. She was then moved to postnatal ward for further care. Baby was observed for 2 hours by the neonatologists and was discharged to the mother. He was commenced on breastfeeding immediately and it was well tolerated.

Intravenous fluid was given at the rate of 1 liter 8 hourly for 24 hours, she had intravenous ceftriaxone 2g daily for 48 hours, intravenous metronidazole 500mg 8 hourly for 48 hours. She also had rectal diclofenac 100mg 12 hourly and intramuscular pentazocine 30mg 4hourly both for 48 hours. Her blood pressure rose to 170/110mmHg at 5 hours post-operation despite adequate analgesics. She was given intravenous hydralazine 10mg slowly over 15 minutes. She made good recovery and with the return of her bowel sounds after 12 hours post-operation, graded oral intake was commenced and was recommenced on her antihypertensives viz 200mg oral labetalol twice daily, oral nifedipine 20mg twice a day and oral aldomet 500mg every 6 hours. She recovered well from surgery. The blood pressure ranged between 130-160mmHg systolic and 90 to 110mmHg diastolic in the first 24 hours. The fluid intake and urine output was adequate. She had complete the 24 hours course of

maintenance dose of magnesium sulphate. She was commenced on oral antibiotics and analgesics viz tab cepodem 200mg twice a day and tab metronidazole 400mg thrice a day both for 5 days, tab paracetamol 1g thrice a day for 5 days and she had rectal diclofenac for another 3 days. Her post operative packed cell volume was 29% on day 2 post-operation and she was given haematinics. The wound was inspection on day 3 post-operation showed well apposed edges with no undue discharge. She was monitored in the hospital till day 7 post-operation. Her blood pressure subsequently ranged between 130-150mmHg systolic and 80-90mmHg diastolic. She was discharged home on oral anti-hypertensives.

She was seen in postnatal clinic a week after discharge and she was cheerful and had not complaint. Blood pressure was 110/60mmHg. Tab aldomet was discontinued and she was given a 2 weeks follow-up. At 2 weeks follow-up, she has not complaint. Baby was breast feeding well and immunization was adequate for the age. Her blood pressure was 100/60mmHg. All anti-hypertensives were discontinued and she was given another two weeks follow-up. At 6 weeks postnatal clinic visit, she was counselled on the diagnosis and management so far. How delayed in consenting for surgery could have result in poor obstetrics outcome and the prognosis of her care and risk of recurrence in subsequent pregnancies. Her baby weighed 4.8kg and was on exclusive breast feeding. His immunization was up to date. Baby was refereed to infant welfare clinic for further care. The mother counseled on contraceptives and referred to family planning clinic for family planning. The husband never accompanied her to any of these visits and never showed any remorse, insisting that should such situation happen again, he cannot leave God's work to settle domestic issues.

Discussion

The National guidelines of most developed countries suggest a target of 30 minutes of the decision to delivery interval for emergency cesarean section. Such guidelines may not be feasible in poorly resourced countries where there is challenges of poverty, ignorance, non-availability of skilled birth attendants and poorly equipped health facilities. These challenges are further compounded by poor participation of

women in their own health decision-making irrespective of their educational status and financial power. Our patient a booked 27years old Legal Practitioner who was managed as a case of severe preeclampsia but could not give consent for a caesarean section in the face of obvious deterioration of her own health and that of her baby.

Preeclampsia is a progressive disease and its one of the leading causes of maternal and fetal morbidities and mortalities. Pre-eclampsia is characterized by poor utero-placental circulation secondary to inadequate remodeling of the spiral arteries that usually occur between weeks 8 and 18^{7,8}. Overall, 10% to 15% of direct maternal deaths are associated with preeclampsia and eclampsia, which is about 1 in 7 maternal mortalities globally^{7,8,9}. One of the commonest causes of maternal morbidities in patients with severe preeclampsia is placenta abruption. Placental abruption is often referred to in the literature as a complication of preeclampsia¹⁰. Maternal complications of severe abruption often include disseminated intravascular coagulation, hypovolemic shock, blood transfusion, hysterectomy, renal failure, or in-hospital death¹⁰. These complications are common with late presentations and delays in taking a decision and care of patient. Our patient did not experience any of these complications probably because despite her inability to give consent for her surgery, the diagnosis was made early, she received prompt care and she was monitored closely even when she was yet to consent for immediate delivery. However, with suspicion of placenta abruption, further delay in care could have resulted in adverse outcome.

Delay in giving consent for surgery in a patient with preeclampsia complicated by mild placenta abruption is a known cause of perinatal morbidities and mortalities. Pre-eclampsia is characterized by poor utero-placental circulation which can cause placental vascular dysfunction, and can be particularly significant in early-onset disease, compromising nutrition and oxygenation supply of the fetus, with associated fetal growth restriction⁸. Intrauterine growth restriction was not noticed in index patient probably because the hypertension was diagnosed promptly and she placed on antihypertensives. However, she had mild placenta abruption which could have

progressed to severe abruption with further delay. In a large multiple hospital-based study (involving more than 300,000 pregnant women) that was conducted in 29 low- and middle-income countries, the relationship between severe, life-threatening maternal complications and perinatal deaths due to severe preeclampsia/eclampsia was explored⁹. It found that complications of life threatening eclampsia and preeclampsia were the underlying cause of 7.5% of macerated late fetal deaths, 9% of fresh late fetal deaths, and 10% of early neonatal deaths. All these complications were considered in counseling our patient for immediate delivery but despite being a legal practitioner, she could not give consent for the surgery.

Prevention of adverse outcomes in women with preeclampsia/eclampsia requires multidisciplinary approach including fetomaternal specialists, neonatologists, anesthetists, midwives and cardiologist. As was done for the index case, systematic early identification of pre-eclampsia, timely delivery and effective management of those cases that progress to a life-threatening state (including appropriate use of magnesium sulfate and antihypertensive drugs, as well as appropriate medical support),^{7,9} are crucial to achieving appreciable outcomes. Also, more has to be done at the community levels. A legal practitioner has just proven that education alone, may not be enough. Women in low and mid-income countries have to be empowered to be able to take some crucial decisions on their health when necessary. Advocacy should include religion leaders (her husband was a pastor that could not allow his wife to consent to surgery in his absence), traditional rulers, men, women and significant members of the community.

In conclusion, preeclampsia and other hypertensive disorders of pregnancy are some of the leading causes of maternal and fetal morbidities and mortalities. Low resource countries are faced with challenges of inadequate skilled birth attendants, lack of appropriate facilities, ignorance, poverty and poor maintenance culture for the available facilities. This is further compounded by inability of women in these communities to be able to decide and consent for medical care of their own health even at the point of death. We probably need to do more community advocacies in order to allow our

women to take decisions in critical situations. Government also need to enact laws to reduce male supremacy, and give women more opportunities to take decisions on their health and other important aspects of their lives.

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Additional information

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