Deep tongue laceration following eclampsia, Cesarean section, repair and blood transfusion- A case report

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ABSTRACT
Eclampsia still remains an issue of serious concern in Sub Saharan Africa. Preeclampsia is the precursor to eclampsia, in which hypertension and proteinuria are present, with or without oedema. This is a case of Mrs SK, a 21-year old Primigravida who was unsure of her last menstrual period, but she was said to be 9 months pregnant; she developed generalized tonic clonic convulsions with each episode lasting about 30 seconds. She sustained a V-shaped laceration affecting lower one third of the tongue with clots of blood on the affected area. A diagnosis of antepartum eclampsia was made. She was admitted into the eclamptic ward and resuscitated. Intravenous infusion and Magnesium sulphate were commenced using Zuspan Regimen. She had an emergency caesarean section and was delivered of a fresh still birth female baby who weighed 3.0kg. The lacerated tongue was repaired by maxillofacial surgeon and she was transfused with 2 pints of blood. Eclampsia is the leading cause of maternal mortality in developing countries. Recognizing the features of preeclampsia and instituting appropriate measures is mandatory in order to prevent the progression of the disease to eclampsia with its associated complications.

Key words: Eclampsia; laceration; tongue.

Introduction
Preeclampsia is a condition in which hypertension and proteinuria with or without edema are present in a pregnant woman after 20 weeks of gestation. The occurrence of convulsions or fits in a woman with signs and symptoms of preeclampsia in the absence of underlying neurologic disease is termed eclampsia. Preeclampsia and eclampsia are therefore the manifestations of a spectrum of clinical symptoms of the same condition. Eclampsia remains an issue of serious concern in sub-Saharan Africa.

The incidence of eclampsia varies from one part of the world to another. In developing nations, it ranges from 1 case per 100 pregnancies to 1 case per 1700 pregnancies. Rates from African countries, such as South Africa, Egypt, Tanzania, and Ethiopia, vary from 1.8 to 7.1%.

In Nigeria, the prevalence ranges between 2 and 16.7%. The rates are generally higher in northern than southern Nigeria. A prevalence of between 1.75–5% was reported in Kano. Eclampsia accounted for 31.3% of maternal mortality from a population-based study in Northern Nigeria, and it
contributed 46% to maternal mortality in Kano as reported by SOGON in 2004. Eclampsia remains a serious problem in African countries because of so many reasons, including poverty, ignorance, and lack of information on when and where to seek help. The concept of birth preparedness and complication readiness is also not well-practiced in our settings in Africa; therefore, medical interventions may be ineffective because of late presentation of cases.

Case Report

Mrs. SK was a 21-year-old Primigravida who was unsure of her last menstrual period, but she was said to be 9 months pregnant. She was unconscious on admission; therefore, her medical history was obtained from her husband. She was well until a day prior to presentation when she started complaining of a headache, with no associated dizziness or blurring of vision. Her husband went to a chemist and bought paracetamol for her. There was no history of epigastric pain or vomiting.

She subsequently developed generalized tonic-clonic convulsions, with each episode lasting about 30 sec. Mrs. SK had no associated urinary or fecal incontinence. She convulsed twice at home, twice in a maternity clinic, and thrice at a general hospital before they finally came to our center. She was the only wife of her husband, who was a trader. She did not smoke or drink alcohol. There was no family history of hypertension, diabetes mellitus (DM), chronic cough, or sickle cell disease.

She was a young woman, unconscious, pale, anicteric, and febrile (temperature of 38.6°C) with bilateral pitting pedal edema. There was a V-shaped laceration affecting the lower one-third of her tongue with clots of blood on the affected area [Figure 1]. The central nervous system (CNS) examination revealed an unconscious patient with no meningeal signs and no focal neurological deficit. The chest was clinically clear with a respiratory rate of 22 cycles per minute. The pulse rate was 120 beats per minute (BPM), regular and of moderate volume. Her blood pressure (BP) was 170/100 mmHg and heart sounds were I and II only. The abdomen was uniformly enlarged and moved with respiration. The symphysis fundal height was 38 cm and there was a singleton fetus lying longitudinally in cephalic presentation. The fetal head was five fifths palpable per abdomen. There were no palpable uterine contractions. The fetal heart sounds were absent. Pelvic examination revealed normal external genitalia. The cervix was about 3 cm long, firm, and posterior, and the cervical os was closed.

A diagnosis of deep tongue laceration in a patient with antepartum eclampsia was made.

She was admitted into the eclamptic ward and resuscitation was commenced. Intravenous (IV) infusion of magnesium sulfate was commenced using Zuspan’s regimen. A Foley’s urethral catheter was inserted to monitor the urine output. Prophylactic antibiotics were also commenced.

The following investigations were carried out;
- Packed cell volume (PCV)- 24%
- Hemoglobin concentration- 8 gm per deciliter
- White blood cell count (WBC)- 6.2 × 10⁹/L
- Differential counts- Normal
- Platelet count- 240 × 10⁹/L
- Bedside clotting time- 6 min
- Random blood sugar- 4.6 mmol/L
- Electrolytes and urea- Within normal limits
- Urinalysis was negative for sugar and ketones
- Proteinuria- 3+.

Two pints of blood were grouped and cross-matched. The patient was planned for an emergency cesarean section (C-section) and repair of the lacerated tongue [Figure 2]. The theatre, anesthetists, and maxillofacial
surgeons were informed after obtaining informed consent from the patient's relatives. She had an emergency C-section and delivered a fresh stillbirth female baby weighing 3.0 kg. The maxillofacial surgeon repaired the lacerated tongue and blood transfusion was commenced. She was transferred to the eclamptic ward and continued on magnesium sulfate for 24 h, parenteral antibiotics, and analgesics. She recovered fully within 48 h and graded oral sips were commenced. The second pint of blood was also transfused to her on the second postoperative day. Her vital signs remain stable and she was transferred to the postnatal ward on the fifth postoperative day with a BP of 130/90 mmHg and PCV of 30%. Mrs. SK was subsequently discharged on the tenth postoperative day after the tongue had healed and was given 2 weeks appointment.

Discussion

Preeclampsia is a condition associated with hypertension, proteinuria, and edema. The occurrence of convulsions or fits in a woman with signs and symptoms of preeclampsia in the absence of underlying neurologic disease is eclampsia. Mrs. SK was a 21-year-old woman who developed eclampsia at 9 months of gestation. Studies carried out at the University College Hospital, Ibadan and Zaria show that the incidence is higher among Primigravidae and young women less than 25 years of age.[12,16]

It is a problem of developing the nation with an incidence ranging between 1.75 to 16.7%.[5-7] Eclampsia accounted for 31.3 to 46%[10,11] cases of maternal mortality in Northern Nigeria, and it will continue to be a problem in developing countries. This is because of the failure to recognize features of preeclampsia because of poor utilization of available maternity care services. It is also associated with low socioeconomic status of women, inadequately staffed health facilities, lack of birth preparedness and complication readiness, lack of skilled attendance at delivery coupled with inadequate infrastructure, and poor referral systems.[13]

Eclampsia is the leading cause of maternal mortality in developing countries. Recognizing the features of preeclampsia and instituting appropriate therapeutic measures is mandatory if we want to prevent the progression of the disease to eclampsia. It is logical to ensure that pregnant women have access to good antenatal care, skilled attendance at delivery, coupled with the infrastructure that allows effective referral systems and quality care.

Mrs. SK developed symptoms of preeclampsia that were not recognized by her husband, and as such interpreted it as an ordinary headache. She was also taken to two other hospitals and convulsed several times on the way before she finally arrived at our center, where she was admitted, resuscitated, and subsequently delivered. Medical interventions may be ineffective in some cases because of late presentation.[17-19] The management of eclampsia involves resuscitation, control of convulsions, control of hypertension, correction of electrolyte imbalance, and subsequent delivery of the baby by the quickest and safest means. Mrs. SK was resuscitated and the convulsions were aborted with magnesium sulfate. Various studies have confirmed the efficacy of magnesium sulfate in reducing the risk of progression from preeclampsia to eclampsia and also preventing further fits in eclamptic patients.[20-23] It also does not appear to cause substantive harmful effects to the mother or baby.[24]

Complications of eclampsia include cerebral edema; stroke; blindness; deafness; pulmonary edema; aspiration pneumonitis; hemolysis; elevated liver enzymes; low platelet count (HELLP) syndrome; and disseminated intravascular coagulopathy. Others include acute kidney injury, trauma, and hepatic rupture.[25,26] Mrs. SK developed deep tongue laceration, which was repaired in the theatre.

Orofacial injuries, such as deep tongue lacerations from eclampsia, are common in sub-Saharan Africa.[27] The majority of these injuries are because of biting or forceful insertion of hard objects into the patients' mouths by relatives. They are more likely to be associated with repeated convulsive episodes and maybe a risk factor for mortality.[27] Obstetricians and other health care providers should be familiar with measures to prevent these injuries in the eclamptic patient and when such injuries occur, seek appropriate and early dental or maxillofacial consultations. There should also be adequate health education of the populace to highlight the dangers of forceful insertion of hard objects into the mouth of eclamptic patients during convulsive episodes to reduce the risk of deep tongue lacerations and other orofacial injuries.

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.
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