

Gross Vulva Odema Complicating Severe Pre-Eclampsia/Eclampsia: A Case Series

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ABSTRACT

BACKGROUND: Pre-eclampsia/Eclampsia is one of the leading causes of maternal and perinatal morbidity and mortality in sub-Saharan Africa including Nigeria. Pre-eclampsia presenting with gross vulva edema is not commonly encountered and its significance is yet to be established.

METHODOLOGY: A clinical case series of four patients with Pre-eclampsia that presented with gross vulva edema.

RESULT: Three patients had evidence of worsening severity of disease characterized by acute renal failure with oliguria, HELLP Syndrome, Intrauterine Growth Restriction and adverse perinatal outcome. The fourth was complicated with eclampsia, adult respiratory distress and maternal death.

CONCLUSION: The presence of gross vulva oedema in pre-eclampsia may be an indicator of severity of disease and or deteriorating fetomaternal condition. Further studies are required to demonstrate the significance of gross vulva edema in pre-eclampsia.

INTRODUCTION

Pre-eclampsia/eclampsia complicates 5-10% of pregnancies and associated with significant maternal and perinatal morbidity and mortality¹. It is estimated that eclampsia accounted for about 10% of maternal mortality and majority of these deaths occur in developing countries². In Nigeria pre-eclampsia/eclampsia is responsible for 10-30% of maternal deaths^{3,6}.

Pre-eclampsia is a multi-systemic disorder with no known pathophysiologic feature. It is commonly associated with hypertension and proteinuria and when severe can affect the liver, kidneys, brain circulation system and the placenta².

Clinically edema is not specific to preeclampsia and when present usually limited to the lower limbs (leg and the ankle). Occasionally it may extend to the anterior abdominal wall, the peri-orbital region and the hands¹. Massive vulva edema is rare in preeclampsia. There are very few reports in the literature. Bracero and Didomenico in 1991 reported two cases of massive vulva edema associated with preeclampsia⁷. In 1995

Jakolic and colleagues in Israel reported a case of massive vulva edema in pregnancy⁸. The most recent report is that of Gerdzorski & Kozorski in Poland in 2005⁹ who reported a case of vulva edema associated with severe pre-eclampsia.

In this submission, we reported four cases of massive bilateral vulva edema complicating preeclampsia/eclampsia seen and managed in the Delivery Suite of Ahmadu Bello University Teaching Hospital Zaria, Northern Nigeria over a three year period.

CASE 1

Mrs AH was a 18 year old unbooked primigravida who was unsure of her dates but estimated to be about nine months pregnant presented with two weeks history of progressive bilateral vulva swelling on the 22nd of November 2005. There was no associated headache, blurring of vision, epigastric pain or convulsion. The vulva edema was associated with mild pains and discomfort. She got married 11 months prior to presentation.

Physical examination revealed an ill looking young lady, anicteric and no pallor. There was facial puffiness and pitting bilateral pedal oedema up to the knees. The admitting blood pressure was 160/130 mmHg and the chest was clinically clear. The fundal height was consistent with 34 weeks gestation. The uterus contained a singleton fetus in longitudinal lie and presenting cephalic in left occipito anterior position. There was no palpable uterine contraction. The fetal heart tone was 144 b/ min and regular. Pelvic examination revealed **gross vulva oedema involving both labia majora and minora (Fig 1)**. Gentle digital examination showed the cervix was soft, central, 2 cm dilated and about 70% effaced.

A clinical impression of severe pre-eclampsia with suspected intrauterine growth restriction was made. Her packed cell volume was 33%, platelet level 105x 10³/dL and urinalysis revealed 3+ of proteinuria. Liver enzymes (both alanine and aspartate transaminases) and serum uric acid were slightly elevated. Obstetric ultrasonography revealed a singleton fetus at 37 weeks gestation with no gross anomaly. There was mild oligohydramnios and the placenta was inserted on the anterior uterine wall. HELLP Syndrome was added to the clinical impression.

Fig 1: Gross vulva odema seen in Case 1.



Fig 2: The gross vulva odema seen in Case 2.



Fig 3: Odema of the vulva seen in Case 3.



She was admitted and stabilized. Blood pressure was controlled with hydralazine infusion and she received Magnesium sulphate for 24 hours. Six hours into admission she was delivered via cesarean section of a live female with moderate asphyxia and weighed 2 kg. The infant responded well to resuscitation. Her post operative course was relatively smooth and by day 5 postpartum, the vulva edema had regressed. She was

discharged on the eight postoperative day and never seen in the postnatal clinic.

CASE 2:

Mrs HM was a 25 year old G4Para3(1alive) admitted into our labour unit on the 11th of July 2006. She was referred to our unit from a public primary care centre at an estimated gestational age of 38weeks +3days with complaints of headache, dizziness and blurring of vision and vulva swelling of a day's duration. There was no history of fits, labour pains or drainage of liquor. Two weeks prior to presentation she was diagnosed to be hypertensive at the referral center and commenced on aldomet and Nifedipine tablets. Her first delivery was complicated with pre-eclampsia with resultant Perinatal death. The second and third deliveries were conducted at home.

Clinical examination revealed a young lady, not pale, anicteric with mild ankle oedema. The blood pressure was 170/110 mmHg. Uterine size was consistent with 34weeks gestation. There was a singleton fetus in longitudinal lie and presentation cephalic. There were mild uterine contractions but fetal heart sounds were not heard. The vulva was **grossly oedematous(fig 2)** and the cervix was 5cm dilated with full effacement. The membrane was intact and the fetal station was -1.

An impression of intrapartum fulminating preeclampsia and IUFD in a multipara was made. Urinalysis revealed 2+ of proteinuria and serum uric acid was elevated. Ultrasonography confirmed intrauterine fetal death.

She was stabilized with intravenous fluid, magnesium sulphate and hydralazine. She had amniotomy with subsequent good labour progress culminating in the delivery of a macerated male stillborn weighing 2.4kg. She had good postdelivery recovery and by the third day postpartum, the vulva edema had fully regressed.

CASE 3:

A 21 year old unbooked primigravida who was unsure of her dates but estimated to be about eight months pregnant, presented with one week history of progressive generalized body swelling with malaise and intermittent non projectile vomiting on the 24th of March 2007 . There was no headache, blurring of vision or epigastric pain and no history of convulsion.

Examination revealed a young lady who was not pale but with generalized body oedema. The blood pressure was 180/120 mmHg. The fundal height was consistent with 34 weeks gestation. There was a singleton fetus in longitudinal lie and presenting cephalic. The fetal heart rate was 152/minute and regular. Pelvic examination revealed **grossly oedematous vulva(fig 3)** and the cervix was soft but uneffaced with a closed internal os.

Clinical impression of fulminant was made. She had 3+ of proteinuria, elevated urea and uric acid levels, packed cell volume of 30% but normal platelet count. Urine output was about 15 mls/hr. Associated complication of acute renal failure was suspected

She had renal challenge with frusemide, magnesium sulphate and hydrallazine. While on stabilization she went into spontaneous labour and was delivered of alive male infant weighing 2.1kg with moderate asphyxia. She recovered well post delivery and the vulva odema had regressed significantly by day fourth day of puerperium.

Case 4

A 20 years old primigravida was referred from a rural private hospital at about nine months gestation with one day history of intermittent generalized tonic clonic convulsion, non projectile vomiting and difficulty in breathing on the 10th of April 2008. She had taken a lot native medications at onset of symptoms and has had about 10 episodes of convulsion averagely lasting about one minute

There was no labour pain, drainage of liquor or bleeding per vaginum. She was not a known sicker or epileptic.

She was febrile (40°C), in respiratory distress, not pale but with pitting pedal oedema. She was tachypnoeic with respiratory rate of 44cycles/min and had wide spread coarse crepitations. The blood pressure was 160/110 mmHg. Fundal height was consistent with 34 weeks gestation containing a singleton fetus in longitudinal lie and cephalic presentation. Fetal heart tones were not heard. There was **gross vulva oedema**. The cervix was soft, 2cm dilated and about 30%effaced.

An impression of Antepartum Eclampsia complicated with aspiration pneumonitis and intrauterine fetal death. Urinalysis revealed proteinuria of 3+, packed cell volume of 33%, normal platelets and uric acid levels.

She was admitted into the intensive care unit and two hours into admission she developed cardiac arrest and died.

DISCUSSION

Gross vulva odema complicating pre-eclampsia/eclampsia is not a common event and few cases have been documented in the literature. Our four cases were seen over a three year period.

In the cases reported by Bracero and co-worker⁷, Jakobi and colleagues⁸ and Gerdzhikov and co-worker⁹, gross vulva odema was associated with severe pre-eclampsia

as seen in our cases. In addition, it is also associated with other maternal complications of pre-eclampsia- HELLP syndrome in case 1, acute renal failure in case 3 and eclampsia with respiratory distress and subsequent maternal death in case 4. Apart from maternal complications, fetal outcome is also adversely affected. In our case 1 and 3, the babies were of low birth weight and had moderate asphyxia. This is in agreement with the fetal outcome of the two cases reported by Bracero and co-worker⁸. In case 2 and 4, both were intrauterine fetal death.

Putting our cases together, vulva odema appeared to be associated with severe pre-eclampsia and may herald other serious maternal complications of pre-eclampsia. It is also a risk factor to adverse perinatal outcome.

In conclusion the presence of gross vulva odema in pre-eclampsia may be an indicator of severity of disease and or deteriorating fetomaternal condition. It probably calls for prompt admission and delivery of the fetus. Further studies are required to demonstrate the significance of gross vulva edema in pre-eclampsia.

REFERENCES

1. Shah MR. PIH: The challenge. In: Shah MR (Editor): Hypertensive disorders of pregnancy. New Delhi, Jaypee Brothers 2007: 1-9.
2. Chappell L. Recent advances in pre-eclampsia and eclampsia. *Trop Doc* 2004; 14: 1
3. Ekele B. Magnesium Sulphate: the Gold Standard for the Treatment of Eclampsia and Severe Pre-eclampsia. *Trop J Obstet Gynaecol* 2006; 23(1): 1-3
4. El Nafaty AU, Melah GS, Massa AA, Audu BM, Nelda M. The analysis of eclamptic morbidity and mortality in Specialist Hospital Gombe, Nigeria. *J Obstet Gynaecol* 2004; 24(2) : 142-7
5. Igberase GO, Ebeigbe PN. Eclampsia : Ten years of experience in a rural tertiary hospital in the Niger Delta, Nigeria. *J Obstet Gyneacol* 2006; 26(5): 414-7
6. Onuh SO, Aisien AO. Maternal and fetal outcome in eclamptic patients in Benin City, Nigeria. *J Obstet Gyneacol* 2004; 24(3): 765-8.
7. Brezero LA, Didomenico A. Massive vulva edema complicating pre-eclampsia: a management dilemma. *J Perinatol* 1991; 11(2): 122-5
8. Jakobi p, Friedman M, Goldstein I, Zaidise I, Itskovitz-Eldor J. Massive vulva edema in pregnancy: a case report.. *J Reprod Med* 1995; 40(6) : 479-81
9. Gerdzhikov B, Kozovski G. Massive vulva edema in severe pre-eclampsia. *Akush Ginekol (Sofia)* 2005; 44(3): 44