

Case Series

ATYPICAL ECLAMPSIA AND MATERNAL OUTCOME IN TERTIARY CARE HOSPITAL: A CASE SERIES

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ABSTRACT

Background: Atypical eclampsia denotes the onset of seizures after 48 hours of delivery or within 20 weeks of gestation without typical features of Preeclampsia.

Aims and Objectives: 1) To detect the features of atypical eclampsia in preeclamptic patients at earlier stages 2) To analyse the maternal outcome in women with atypical eclampsia.

Material and Methods: A retrospective case series reported at a tertiary institute from May 2023 to April 2024.

Results: Out of the 7 cases studied, 1 patient ended up with intracranial hemorrhage, 2 patients had PRES- Posterior Reversible Encephalopathy Syndrome, other 4 patients had no radiological abnormalities.

Conclusion: All of the patients had atypical features of Preeclampsia. Thus, early detection of PIH, and other atypical forms help in better management and decreasing overall preeclampsia associated complications.

Keywords: Atypical Eclampsia, Proteinuria, Doppler Changes.

INTRODUCTION

The incidence of Preeclampsia in pregnant women contributes to about 2 to 10 % overall. Classical Preeclampsia includes hypertension with proteinuria and edema at more than 20 weeks of gestational age.^[1] If eclampsia occurs within 20 weeks of gestation or 48 hours post-partum without associated typical features of preeclampsia it comes under atypical eclampsia. This contributes to about 8% of eclamptic cases.^[1] Worldwide eclampsia and pre-eclampsia account for about 63000 maternal deaths annually.^[2]

Triploidy and Hydatiform mole are most commonly associated with eclampsia occurring less than 20 weeks of gestation. In the postpartum period, the incidence of eclampsia has declined during the past decade. The maternal outcome however doesn't differ significantly between typical and atypical eclampsia.^[3]

Improved access to prenatal visits, earlier detection of pre-eclampsia, prophylactic use of magnesium sulfate, are to be followed for better maternal and perinatal outcome.^[4] In this study we have analysed

a cases series on atypical eclampsia to determine the maternal outcomes and discuss ways to improve them.

MATERIAL AND METHODS

A retrospective case series reported at a tertiary institute from May 2023 to April 2024.

Case 1

A 25-year-old female P1L1 presented on PND 12 with 2 episodes of convulsions. She was not k/C/O PIH, or other CNS disorders. On admission, the patient was conscious oriented, afebrile, BMI- 20kg/sq. m, PR- 98bpm, BP- 100/60mm of Hg, C/o headache, P/A- soft, non-tender, P/V- healthy lochia.

Investigations were done, and CBC, LFT, RFT, Serum electrolytes were within normal limits, urine albumin traces by dipstick method. ANC fetal Doppler was found to be normal.

On CT Brain- no abnormalities were detected. Magnesium sulfate loading dose was given, physician opinion taken and Inj. Levetiracetam 1g iv stat dose followed by 500mg BD for 3 days given.

She was referred to a higher center for MR venogram to rule out CVT which was found to be normal and later discharged. Patient was followed up and found to be doing well.

Case 2

A 20-year-old female P1L1 presented on POD 16 with 3 episodes of convulsions. She was diagnosed with pancytopenia, and atypical HELLP syndrome in antenatal period, underwent Emergency LSCS in view of fetal distress. In antenatal period, patient had generalized edema, and was normotensive.

Physician opinion for pancytopenia was sought, anemia correction with 4 units PRBC, 2 units RDP transfusion was done, and patient was discharged on POD 10. On readmission POD 16, patient was conscious oriented, BMI 23kg/sq.m, afebrile, PR-80bpm, BP- 90/60mm of Hg, C/o headache, P/A-soft, non-tender, P/V- healthy lochia.

Investigations were done, and CBC, LFT, RFT, Serum electrolytes were within normal limits, proteinuria ++ on dipstick. First trimester USG showed positive predictive value of PIH. CT Brain- no abnormalities were detected.

Magnesium sulfate loading dose was given at PHC and referred to our hospital, Physician opinion taken and Inj. Levetiracetam 1g iv stat dose followed by oral 500mg BD for 3 days given. Patient was referred to higher center for MR venogram to rule out CVT which was found to be normal and then discharged.

Patient was followed up and found to be doing well.

Case 3

A 21-year-old female P2L2A1 presented on PND 12 with 2 episodes of GTCS. She was not a k/C/O PIH, or other CNS disorders. On admission, patient was conscious oriented, afebrile, BMI- 20kg/sq. m, PR-98bpm, BP- 100/60 mm of Hg, C/o headache, P/A-soft, non-tender, P/V- healthy lochia.

Investigations were done, and CBC, LFT, RFT, Serum electrolytes were within normal limits. Traces of protein were found in urine by dipstick. Antenatal USGs were normal. CT Brain- no abnormalities were detected.

Magnesium sulfate loading dose was given, Physician opinion taken and Inj. Levetiracetam 1g iv stat dose followed by 500mg BD for 3 days given. Patient was referred to higher center for MR venogram to rule out CVT which was found to be normal and discharged. Patient was followed up and found to be doing well.

Case 4

A 24-year-old P2L2 underwent emergency LSCS due to scar tenderness on POD2 had thrown 1 episode of GTCS, regained consciousness within 30 seconds with no post ictal confusion. Her BMI-21kg/sq. m, PR 104bpm, BP 120/70mm of Hg, SpO2 99% at RA, other systemic examination was normal. She was not a case of PIH, and her routine investigations and serum electrolytes were normal, proteinuria absent. Antenatal fetal doppler was found to be normal. Patient stabilized and Inj. Levetiracetam 1g iv stat followed by 500mg BD

given, Magnesium sulfate 14g loading dose was given.

Physician opinion taken and conservative management was done. The patient was discharged, imminent signs explained and asked to come for regular follow up. Her CT was found to be normal.

Case 5

A 30-year-old primigravida with 36 weeks of gestation with Neurofibromatosis has been referred in view of fetal distress. Her preoperative investigations and vitals were normal. BMI-27kg/sq. m, BP- 130/ 80mm of Hg. Urine albumin +++. Second trimester fetal doppler showed decreased uterine artery perfusion.

Intracranial and spinal tumors were suspected. Emergency physician opinion was taken. She underwent emergency LSCS under GA, on extubation patient was not maintaining saturation and was drowsy. Her BP was 190/120mm of Hg, NTG infusion was started. The patient was reintubated and shifted to ICU.

On POD 1 patient was responsive. Right sided hemiparesis was noted, extubated and found to have right sided facial palsy. CT showed Left side Frontoparietal region hemorrhage. Inj. Mannitol 100cc iv stat given. The patient was referred to a higher center for further neurosurgical evaluation. On follow up she was found to be conservatively managed.

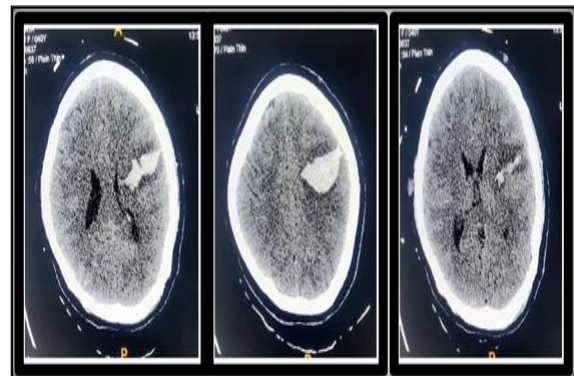


Figure 1: ICH in case 5

Case 6

A 27-year-old female, G4P1L1A1 with 20 weeks of gestation, previously not a known case of HDP, has been referred from peripheral hospital with status eclampticus, with 8 episodes of GTCS. On admission her BMI- 23kg/sq. m, PR 90bpm, BP 110/70mmHg, GRBS 90mg/dl, Inj. LEVITARACETAM 1g iv stat followed by 500mg BD for 3 days was given.

Investigations were normal with Urine albumin of ++. Antenatal fetal USG showed increased resistance in B/L Uterine arteries. Patient underwent spontaneous abortion, CT showed PRES. Physician opinion taken, patient was conservatively managed and discharged with oral LEVITARACETAM and Glycerol syrup.

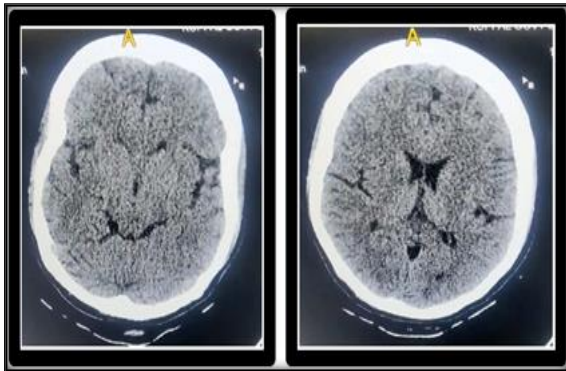


Figure 2: Subcortical edema in case 6

Case 7

A 22-year-old Primigravida with PND2 with 1 episode of GTCS, with no previous hypertensive readings. ANC follow up was uneventful. On admission, the patient was conscious oriented, BMI 21.5kg/sq.m, vitals and investigations were normal, nil proteinuria. CT showed parietal and frontal subcortical edema. She was diagnosed with PRES syndrome and conservatively managed as in the previous case.

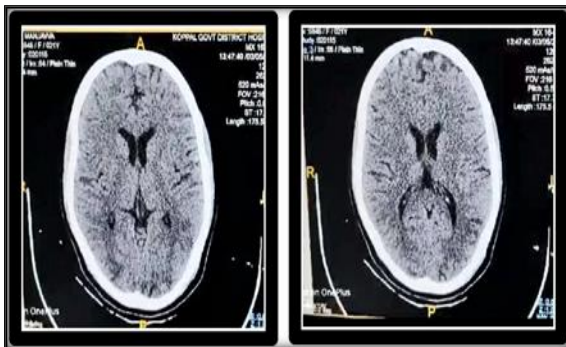


Figure 3: Subcortical edema in case 7

RESULTS

Various presentations of atypical eclampsia were seen in this case series. Out of the 7 cases studied, 1 patient ended up with ICH, 2 patients had PRES,

Table 1: Obstetric status on admission

Onset of seizure	Primigravida	Multigravida	Total
<20 weeks	0	1	1
Immediate postpartum	2	1	3
Late postpartum	2	1	3

DISCUSSION

The classical form of Preeclampsia starts with involvement of arteries and renal system manifesting as hypertension and proteinuria. But in the atypical form the pathogenesis starts with other systems such as cerebral involvement.^[1] Thus, it is a multisystem disorder. Vasospasm seems to play a major role.^[5] These patients are identified and asked to come for twice weekly follow up for further laboratory and imaging studies. Imminent

and the other 4 patients had no radiological abnormalities.

Proteinuria was detected in 3 patients, whereas others had traces or nil protein in urine. Second and first trimester uterine artery doppler changes were detected in four of the patients. No other drug intake, viral infections, preexisting intracranial lesions, CNS disorders or Epileptic history were detected in these patients.

All the patients responded well with Magnesium sulfate Pritchard’s regime and other antiepileptics.

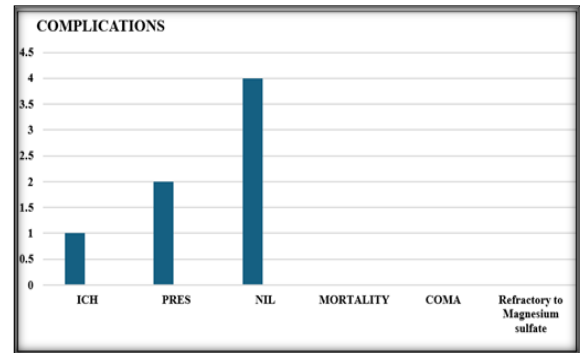


Figure 4: Complications noted in the patients [ICH- Intracranial haemorrhage, PRES- Posterior Reversible Encephalopathy syndrome]

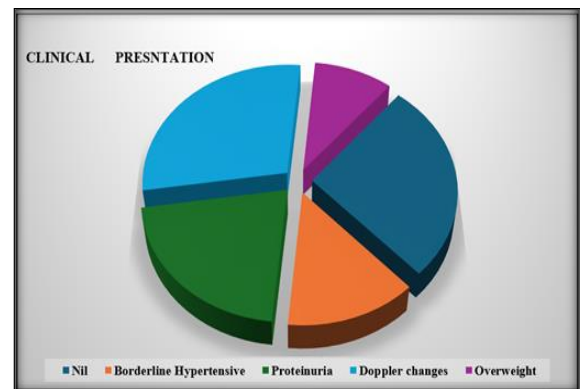


Figure 5: Risk factors noted in the patients

signs, isolated proteinuria and altered liver enzymes should be looked for, but proteinuria is not mandatory for diagnosis.^[6]

Other differential diagnosis such as cerebrovascular accidents, seizure disorders, hypertensive encephalopathy, undiagnosed brain tumors and metabolic diseases should be ruled out.^[7]

Biochemical and biophysical markers to predict endothelial dysfunction, such as PAPPa less than 5th centile in first trimester, PIGF detected in less

than 20 weeks^[10] can be used but deferred in our study due to economical limitations.

CONCLUSION

Pre-eclampsia is a multisystem disorder. Atypical eclampsia simply indicates that the disease pathology has set in without the classical signs and symptoms. Thus, early detection of PIH and administration of Aspirin in the first trimester help in decreasing the overall Preeclampsia and associated complications. This is achieved by efficient prenatal and antenatal follow up.

Training of staff with basic life support in collapsed patients should be familiarised.

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