

Atypical Postpartum Eclampsia- A Case Report with Review of Literature

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Abstract

New onset convulsion in a woman after delivery in the absence of hypertension and/or proteinuria and other causes of convulsion is called atypical postpartum eclampsia. Some authors include the time duration of beyond 48 hours of the delivery for the diagnosis. Incidence is about 8% of total cases of eclampsia. Exact cause is not yet definitely established for it and the occurrence is unpredictable. It is a diagnosis of exclusion by history, examination and investigations. Management of this highly morbid and life threatening condition is equally challenging particularly in remote places. Seizure control and supportive treatment and monitoring are the key to good prognosis. This case, 39 year old primipara who had uneventful antenatal period, developed severe headache followed by generalized tonic, clonic convulsions following caesarean section. She was managed with Magnesium sulfate and investigated. She responded well to treatment and was discharged. The aim of presentation is to create awareness about the condition, emphasize the need of postpartum supervision and maintain statistical record.

Keywords: Blood Pressure; Eclampsia; Postpartum; Convulsion

Abbreviations

OPD: Outpatient Department; BP: Blood pressure; LSCS: Lower Segment Caesarean Section; MgSo₄: Magnesium Sulfate; A: G-Albumin; Globulin; POD: Postoperative Day; USG: Ultrasonography; MRI: Magnetic Resonance Imaging; LFT: Liver Function Test; SGOT: Serum Glutamic Oxaloacetic Transaminase; SGPT: Serum Glutamic Pyruvic Transaminase; ALP: Alkaline Phosphatase; LDH: Lactate Dehydrogenase; MAP: Mean Arterial Pressure; SpO₂: Partial Pressure of Oxygen and HDP: Hypertensive Disorder Of Pregnancy.

Introduction

Eclampsia is the extreme stage of hypertensive disorder of pregnancy, defined by occurrence of new onset tonic-

clonic-convulsions with or without coma in a woman with preeclampsia. Postpartum eclampsia is one of the three types in relation to delivery and may be early (≤ 48 hours) or late (> 48 hrs-6 weeks). Atypical postpartum eclampsia is development of such convulsions and or coma after delivery without evidence preeclampsia like hypertension and /or proteinuria at anytime during pregnancy, delivery or after delivery [1]. Though a rare entity it has high morbidity and mortality [2]. Exact incidence is not known for inadequate reporting of the pathology. Atypical eclampsia constitutes about 08 % of total eclampsia cases [3]. A study by Thomas DT et al. reported 45.7 % of postpartum eclampsia cases were atypical eclampsia [4]. Diagnosis and management of the condition is challenging to the attending physician [5]. It is more challenging in cases delivered in remote health care units where neither expertise nor facilities are available [6].

Even in advanced care multidisciplinary hospitals where the delayed postpartum atypical eclampsia cases usually report, the health care provider may not be conversant with this pathology. Knowledge of its existence and suspicion of the condition and exclusion of other etiologies like intracranial lesions of hemorrhage, infarction, tumor, infection or abscess and electrolyte imbalance or metabolic disorders, leads to the diagnosis. Management is supportive and convulsion control as in eclampsia. It signifies the full time attendance to a parturient in postpartum period for her safety. Here we present a case of atypical postpartum eclampsia with review of literature. Aim of the presentation is to (1) create awareness about the condition (2) its significance in reducing maternal morbidity and mortality (3) statistical record for research studies to formulate diagnostic, preventive and management strategies.

Case Report

A 39 year old primigravida, educated to senior secondary level, housewife by occupation at 37weeks 3 days of amenorrhea reported to antenatal OPD of the institution with the complaint of vague pain abdomen on and off since one month. Her bowel and bladder functions were normal and she felt the fetal movement well. Patient was attending antenatal clinic regularly outside this institution, vaccinated with two doses of Tetanus toxoid and taking nutritional supplementations as advised by her obstetrician. All her antenatal investigations were within normal limit, first, second and third trimester was uneventful till date except the present complaint. She conceived spontaneously after one month of marriage and. Her menstrual history was 4-5/30 days, regular, last menstruation on 17.04.24 calculating the expected date of delivery to be 24.01.25. Past medical and surgical history, personal and family history was not relevant to her present condition. On admission patient's general condition was good with BP-120/70mmHg, pulse- 78/min, temperature- normal, no pallor; mild bilateral pedal edema (+) height was 141cm. No clinically detectable abnormality was found in Cardiovascular, respiratory and central nervous system. On abdominal examination uterus was 36 weeks, relaxed, nontender, longitudinal lie, cephalic presentation and unengaged head. Internal examination found posterior uneffaced cervix, os 1cm and doubtful pelvic. Elective LSCS was planned with the indication of elderly primigravida, doubtful pelvis and maternal request. All her preoperative investigations were within normal limit. LSCS under spinal anesthesia was uneventful. Baby was 02.90kg, with Apgar score of 08 and 10 at 1 and 5 min respectively and clear liquor. On shifting the patient to post operative bed she complained severe headache followed in minutes by generalized tonic, clonic convulsions which was managed with Levetiracetam 1000mg infusion. She was conscious, BP-100/60 mmHg, normal pulse/ temperature / respiration/

SpO₂ /urine output. With the provisional diagnosis of atypical postpartum eclampsia magnesium sulfate (MgSO₄) by Pritchard regimen and supportive management started. There was no recurrence of convulsion, BP range was 90-120/60-70 mmHg on the day of surgery, no more head ache and patient was comfortable. Investigation revealed same hemogram (normal) including platelet as preoperative values, normal renal function with no proteinuria, normal serum electrolytes and blood sugar. LFT was affected with bilirubin-2.9mg/dl (total) and direct-1.7mg/dl, SGOT-371 IU/L, SGPT- 460 IU/L, ALP-267 IU/L, LDH-606 U/L. Coagulation profile, serum protein and A:G was within normal range. Peripheral smear showed reticulocyte count-4.5%, normocytic normochromic red cells. As the patient was responding well urinary catheter was removed on first POD following completion of MgSO₄ regimen and fluid diet was allowed which she tolerated well. On second POD patient was asymptomatic, ambulatory, bowel and bladder function was normal, tolerating usual diet as advised by dietician for her affected liver function and her vials were within normal limit. LFT remained deranged with serum bilirubin - 3.0 mg/dl (total) and direct- 2.0 mg/dl, and enzymes at the same level. Tab. Ursodeoxycholic acid 300 mg twice daily orally was added to her prescription. USG reported bulky liver with normal echo structure, mild left sided pleural effusion. MRI of brain, done on sixth POD was within normal limit excluding intracranial causes of convulsion. Her abdominal stitches were removed on 7th POD and she was discharged to home on 8th POD as her LFT was near normal with adequate counseling about patient care and supervision in home and review in OPD. Patient was reviewed after 35 days of delivery, found to be asymptomatic, normotensive. LFT and USG findings were normal.

Discussion

Contribution of postpartum eclampsia to maternal morbidity and mortality is 1.8% -14% in developed and developing countries respectively. 4 Atypical postpartum eclampsia is defined as new onset convulsion after delivery without features of preeclampsia which constitute part of total cases of postpartum eclampsia. Late detection, diagnostic dilemma, and challenges in management are the main causes of complications leading to increased maternal morbidity and mortality. Our patient developed convulsions on shifting from Operation Theater and was well managed. Women developing it late after an uneventful pregnancy and delivery get delayed medical help and develop worse prognosis. Premonitory symptoms like headache occur in 66% of cases [7,8]. Four-fifth of cases had prodromal symptoms as reported by Kane SC [9]. Our patient developed severe headache just before throwing fits. Mobilization of interstitial fluid to intravascular compartment following delivery leading to hyper dynamic circulation and cerebral edema is one of the explanations

for atypical postpartum eclampsia [10]. Intra operative fluid overload might be the cause in our case as atypical eclampsia can occur in postpartum cases with normal BP where intravenous fluid infusion is not controlled. Though for diagnosis of hypertensive disorder of pregnancy (HDP), BP of $\geq 140/90$ mmHg is the requirement; many studies has reported second trimester mean MAP is a better predictor [11]. Because lower normal range of BP might be normal for some women and rise of BP during pregnancy which is $< 140/90$ mmHg is not considered for diagnosis of HDP. MAP of > 90 mmHg or increase of >10 mmHg is considered abnormal. Our patient being 39 year old was in high risk group of HDP. She had elevated liver enzymes, serum Lactate dehydrodanage (LDH), bilirubin (total and direct), which indicates liver pathology and tissue necrosis. Ghadiali T, et al. [12]. have reported a case of antenatal atypical eclampsia with raised liver enzymes which responded to termination of pregnancy [11]. Multidisciplinary approach is the key to the early diagnosis, management and follow up of the case in achieving better prognosis.

Conclusion

Reporting of cases for creation of awareness among healthcare providers about the diagnosis and management of atypical postpartum eclampsia is the first step in improving the prognosis in this rare, unpredictable but serious maternal disaster. Counseling of the parturient and attendants about the condition, its prodromal symptoms and need of urgent reporting to health care facility even if she had a normal pregnancy and delivery is equally important. Finally reporting the cases is required to maintain statistics and help in further study to predict the occurrence of this pathology, its etiopathogenesis, and best management strategies.

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Conflict of Interest

Nil

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