



ECLAMPSIA OR STROKE? A CLINICAL DILEMMA

Obstetrics & Gynaecology

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ABSTRACT

Background: Stroke in pregnancy is a rare but potentially life threatening condition that is frequently and easily misdiagnosed as Eclampsia due to overlapping symptoms. Differentiating stroke in pregnancy from Eclampsia is critical because the management and outcome differ significantly. **Case:** We report a case of 31 year old Primigravida in late third trimester with altered sensorium and vomiting and hypertension. Focal neurological deficit raised suspicion of stroke and MRI brain was done which suggested Ischemic stroke for which patient was treated surgically. Timely diagnosis and intervention allowed slow but near complete recovery of motor deficits. Prompt treatment averted maternal and fetal mortality. **Conclusion:** Stroke management requires timely multidisciplinary approach involving Obstetricians, Neurologist, Intensivists, Radiologists with ICU care.

KEYWORDS

Stroke in pregnancy, Eclampsia in pregnancy, management of stroke in pregnancy, Eclampsia vs stroke.

INTRODUCTION

Stroke affects approximately 30/100000 pregnancies[1]. Stroke and eclampsia in pregnancy share some overlapping pathophysiological mechanisms like- endothelial injury, hypertension, hypercoagulable state, cerebral vasospasm and impaired cerebral autoregulation. Both conditions affect the brain in a pregnant/postpartum female and present with seizures, altered sensorium, headaches, visual disturbances, and often hypertension. However there is an important difference- preeclampsia occurs due to abnormal placentation and placental ischemia whereas stroke is primarily a cerebrovascular event. Table No:1 shows key differences in diagnosis of eclampsia vs stroke. Even though both are a different disease, their overlapping features make timely diagnosis difficult.

AIM: To highlight the clinical presentation, diagnostic approach and management of stroke in pregnancy through a case report.

CASE: A 31 year old primigravida at 36 weeks gestation presents with sudden onset altered sensorium with history of 1 episode of seizure followed by vomiting, and not responding to verbal commands. No other complaints. Patient is a known case Rheumatic heart disease with Balloon mitral valvotomy done for severe mitral stenosis on Aspirin and Metoprolol.

On examination: GCS : E3V1M5, pulse :70/min, BP: 190/110mmHg, Respiratory rate: 22/min, SpO₂= 99% on room air, RS - clear, CVS- S1S2+. No pedal edema, Urine Albumin: Nil

Per abdomen: Uterus 36 weeks relaxed, Cephalic presentation, NST-reactive. P/v: Cervix 1 finger tight, uneffaced, no show/leak.

Plantar reflex showed positive Babinski sign, with reduced movements of right upper and lower limb for localising pain.

Investigations including CBC, Renal and liver function tests, DIC profile, Blood sugar, Serum electrolytes and ECG were within normal limits. 2DEcho showed Ejection fraction of 60% and no clots. MRI Brain with Angiography showed Acute non hemorrhagic Left Frontotemporal infarct due to thrombus in Left Middle cerebral artery.(MCA) Intervention: Inj. MgSO₄ loading dose was given immediately on presentation with antihypertensive drugs for BP control. With multidisciplinary involvement of Radiologists, Neurologists and Anaesthesiologists, a Left MCA endovascular thrombectomy was attempted under general anaesthesia which failed to dislodge the thrombus. It was followed by Left MCA plasty using stent placement which lead to resolution of blood flow across the artery immediately. Patient was continued on Anti-coagulant (low molecular weight heparin) and anti-platelet therapy. Patient was shifted to ICU. Relatives were explained about the high risk nature of her pregnancy. Figures 1-4 show before and after images of Ischemic stroke on MRI.



Figure 1: MRI Brain shows Acute non-hemorrhagic Left Frontotemporal infarct. Figure 2 shows MRI Brain Angiography with thrombus in Left Middle cerebral artery (non-visualisation of Left MCA)



Figure 3: MRI Brain Angiography before stenting. Figure 4: MRI Brain after Left MCA stenting.

Final outcome : Patient was extubated on Day 2 of procedure. After 48 hours, patient went into spontaneous labour and meconium stained liquor was noted. As patient was at a high risk for perioperative Cerebrovascular event and could not be taken off anti platelet therapy for LSCS, LSCS for fetal indication was not done. Instead fetal heart was monitored, amnioinfusion given and labour progress monitored. Baby was delivered by Outlet forceps assisted vaginal delivery to cut short second stage of labour with APGAR of 9/10. Improvement in motor weakness and sensorium was noted within days of procedure. With continued anticoagulation therapy, anti-platelet and anti-epileptic prophylaxis and physiotherapy, patient's limb weakness resolved. On Day 10 post delivery, patient was discharged with normal power in all 4limbs with only residual aphasia on physiotherapy.

This is how timely diagnosis and reperfusion therapy in an otherwise life threatening condition resulted in preservation of brain function and positive maternal and fetal outcome.

TABLE – 1 Key differences between eclampsia and stroke. [1][3]

Features	Eclampsia	Stroke
Onset	preceded by preeclampsia symptoms	abrupt onset motor deficit (facial and limb muscle)

Headache	Holocranial	localised to stroke affected area
Blood Pressure	severe hypertension common	hypertension not always severe, some even normotensive
Seizure	typically GTCS, maybe recurrent	maybe focal, occur once
Neurological deficits	no persistent deficits	sudden unilateral limb and facial muscle weakness
Response to MgSO ₄	seizure is usually controlled	motor deficit persist as no effect on underlying cause
MRI/ CT	white matter edema	infarct/ hemorrhage
Associated features	proteinuria, thrombocytopenia, DIC, impaired renal and liver function tests	difficulty in speech, loss of continence, loss of balance, may not be associated with end organ damage.

GTCS= generalised tonic clonic seizures, DIC = disseminated intravascular coagulation

CONCLUSION :

Preeclampsia and Stroke display similar pathophysiological patterns , however if motor weakness is noted, stroke should be strongly suspected. [2] Understanding the differences between the two is vital for health care providers to enhance their clinical decision making strategies, improve maternal-fetal outcomes while preserving maternal brain function.

Therefore, the practical approach to seizure in pregnancy would be:

1. Immediate MgSO₄ for any seizure in pregnancy/ postpartum presuming Eclampsia. [4]
2. Control BP
3. In case of persistent focal neurological deficits , evaluate simultaneously for stroke using urgent neuroimaging(CT/ MRI Brain) and involving a Physician/ Neurologist early.[2][4]

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