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CASE REPORT

Pregnancy with Epilepsy - A Case Series

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ABSTRACT:
While most women with epilepsy can expect a normal pregnancy outcome, epilepsy remains a significant contributor to both maternal and perinatal morbidity. Pre-pregnancy planning must address reliable contraception and optimisation of antiepileptic drug (AED) regimens to minimise teratogenic risk while maintaining seizure control. Here we present a case series of 5 women with epilepsy and their pregnancy outcomes.

Key words: Epilepsy, Pregnancy, teratogenic.

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INTRODUCTION

Epilepsy is a common neurological disorder with a prevalence rate of approximately 0.5% in most communities. It is estimated that there are over 2.5 million women with epilepsy (WWE) in India,[1,2] with up to 52% of them being in the reproductive age group.[3] Women with epilepsy are faced with many unique issues regarding their reproductive health. Pregnancy in women with epilepsy is considered high risk because of increased risk for seizures, maternal complications and adverse outcomes in the newborn infants. People with epilepsy, especially women, experience tremendous social stigma and alienation in life. Despite progress in medical and surgical therapy, better social acceptance, and favourable legal stand, WWEs are less, often married (59%), when compared with others in the community (65%).[4,5] Neurologists and obstetricians are increasingly faced with WWE during pregnancy, but apparently are not adequately informed about their optimal management.[6,7] These infants have a two to three fold increase in the rate of fetal malformations. Here are few cases which have been discussed in detail.

CASE 1

27 year old primigravida with known case of generalised tonic clonic seizures (GTCS) with 38-39 weeks of pregnancy came in active phase of labour, labour was augmented with oxytocin, and she delivered vaginally a full term female child of 2.5 kg, with no congenital anomaly and a good Apgar Score.

She was diagnosed as GTCS at 5 months of age and was not on any treatment. She started with antiepileptic drugs (AEDs) one and a half years back after a seizure episode. There was no history of any such episode during antenatal and postnatal period.

Patient was given antibiotics, anti inflammatory drugs and AEDs, in this case, **Tab**. **Phenobarbitone**. Lactation was avoided due to the same. She had an uneventful recovery and was discharged on post natal day 5.

CASE 2

23 years old primigravida with known case of GTCS with term pregnancy came in latent phase of labour. Patient was a known case of epilepsy for last 6 years and was on medication **Tab. Zonisamide** 50mg once a day, **Tab.Levetiracetam** 75mg twice a day, **Tab. Clonazepam** 0.5mg once a day. Patient had last convulsions in 3rd month of gestation followed by admission in hospital and started with all the above medications and maintained on it. She also had history of blood transfusion for anaemia in mid trimester in this pregnancy. Patient delivered vaginally a female baby 3.1 kg with no congenital malformation. Patient was given antibiotics, anti inflammatory and AEDs

were continued. She was discharged on post natal day 5. EEG showed idiopathic generalised epilepsy.

CASE 3

28years old primigravida with 37 week pregnancy with known case of epilepsy (GTCS) since last 11years, was admitted with us for safe confinement. She experienced her first convulsion at the age of 8 years and was started on **Tab. Oxycarbamazepine** 300mg bid and **Tab. Valproate** 200mg bd. Patient had poor development of speech and was never sent to school so further development of her behaviour couldn't take place properly. She had her last convulsion 5 years back. Her antenatal anomaly scan was done and it showed no anomalies. She went in labour at 39 weeks and delivered vaginally a female baby, of 2.5kg with no congenital anomaly. Patient was given antibiotics, anti inflammatory drugs and AEDs and was discharged on post natal day 5.

CASE 4

26years old primigravida with breech presentation with known case of epilepsy with depressive disorder, was admitted with us in labour. Patient was epileptic for last 2 years for which she was on **Tab.Clobazepam** 100mg once a day for one year followed by **Tab. Levetiracetam** 500mg bid and continued with the same. Her antenatal period was uneventful. Patient underwent lower section caesarean section (LSCS) in view of breech presentation, delivered a female baby, 2.9kg with no congenital anomalies. Patient was given antibiotics, anti inflammatory drugs and AEDs and was discharged on post operative day 8 after suture removal. Post op period was uneventful.

CASE 5

35 years old primigravida reported to our hospital with8 and half months of amenorrhoea with c/o high grade fever and cough and cold since 2 days. She was k/c/o epilepsy since 9 yr age was on Tab. Tegretal 400 1 OD . Tab. Escitalopram 5 mg ½ OD, Tab. Frisium 5 mg BD. She had last episode of convulsions 3 yrs ago. She had h/o primary infertility since 13 yrs. She had undergone laparotomy for ovarian cyst 2 yrs ago. She had conceived after treatment for infertility. During ANC she was treated for anemia with IV Iron sucrose and multivitamin injections in 7th moths of gestation. Her anomaly scan revealed no gross anomaly at 18-19 wks. But the growth scan at 33 wks revealed mild polyhydraminos. Her glucose challenge test was within normal limit.

After her admission for LRTI she was diagnosed to have bacterial pneumonitis and managed with IV Antibiotics, bronchodilators and nebulisation. On 8th day after admission, she went into labour, progressed uneventfully and delivered vaginally a near term female baby of 2.7kg with no congenital anomalies n good APGAR score. Patient was kept on AEDs, antibiotics and anti inflammatory drugs. Patient threw a convulsion on day 8 of delivery; was managed in ICCU conservatively.

DISCUSSION

Accurate documentation of the type of seizures and their frequency will help to identify any provoking factors, plan management and allow retrospective audit of epilepsy care. The rates of seizure deterioration in pregnancy may be associated with the type of seizure.[8]

Uncontrolled tonic-clonic seizures are the strongest risk factor for SUDEP, which are the main cause of death in pregnant WWE.[9] SUDEP is defined as 'sudden, unexpected, witnessed or unwitnessed, non traumatic and nondrowning death in patients with epilepsy, with or without evidence for a seizure and excluding documented status epilepticus, in which post mortem examination does not reveal a toxicologic or anatomic cause for death.

According to RCOG guidelines June 2016:

Clinical presentation of various seizures types and their effects on the mother and baby

Common types of epilepsy/seizures	Clinical presentation	Effects on mother and baby
Tonic-clonic seizures (previously known as grand mal)	Dramatic events with stiffening, then bilateral jerking and a post-seizure state of confusion and sleepiness.	Sudden loss of consciousness with an uncontrolled fall without prior warning. Associated with a variable period of fatal hypoxia.[10] This seizure type is associated with the highest risk of SUDEP.
Absence seizures	Generalised seizures that consist of brief blank spells associated with unresponsiveness, which are followed by rapid recovery.	Effects mediated through brief loss of awareness although physiological effects are modest. Worsening absence seizures place the woman at high risk of tonic-clonic seizures.
Juvenile myoclonic epilepsy	Myoclonus jerks are the key feature of this form of epilepsy and often precede a tonic- clonic convulsion. These jerks present as sudden and unpredictable movements and represent a generalised seizure.	Occurs more frequently after sleep deprivation and in the period soon after waking or when tired. The sudden jerks may lead to falls or to dropping of objects, including the baby.
Focal seizures (previously defined as 'complex partial' if seizures impair consciousness and 'simple partial' if consciousness not impaired	Symptoms are variable depending on the regions and networks of the brain affected. Within an individual, the attacks are recognisable and stereotypical. Seizures may impair consciousness. Primary focal seizures undergo secondary generalisation. An aura is a primary focal seizure.	Impairment of consciousness increases risk of injury such as long bone fracture, dental or head injury, electrocution or burns compared with if consciousness is retained (an epileptic aura only). They can be associated with a variable period of hypoxia and risk of SUDEP.

These cases highlight that despite the increased risk in pregnancy with epilepsy, the appropriate clinical management is greater than 90% and can have successful pregnancies and healthy children. AED selection in these women should be based on efficacy, drug interaction and teratogenicity and its gravity.

Patient should be treated individually considering the high number of variables such as race, age, weight, body mass index etc.

Congenital malformations are unfortunate pregnancy outcomes. The risk of neural tube defects is only 1-2% with Valproate exposure. It is clear that alternative AEDs with broad spectrum clinical efficacy without risks are needed.

Several newer AEDs, including Lamotrigine, Levetiracetam appear to be effective in a variety of epilepsy types although their impact on myoclonus and absence seizures has yet to be clearly established. Our experience with their safety in pregnancy unfortunately is limited; however the data are greatest for Lamotrigine.

Folic acid supplementation is clearly must for all women. Protective effect is not absolute and careful planning in pregnancy management are still critical if outcomes are to be optimized.

American Academy of Neurology has developed guidelines to assist clinicians in treating patients:

GENERAL GUIDELINES FOR MANAGEMENT OF PREGNANT WOMAN WITH EPILEPSY

PRECONCEPTION GUIDELINES

1)Women of childbearing age should be counselled early and educated about the risks of pregnancy and adverse pregnancy outcomes.

2) The importance of monotherapy should be emphasized with the patient and attempt to switch to monotherapy made if withdrawal from the patients' AED is not recommended.

3) Preconception supplemetation of folic acid has been recommended by the Centre for Disease Control of all women of childbearing age. The recommended dosage is 4 mg per day. This should be encouraged for women with epilepsy.

POSTCONCEPTIONAL GUIDELINES

The patient, her family and the obstetrician should be educated about the risk of AEDs used during pregnancy. Patient should ideally have AED concentrations monitored monthly. The measurement of unbound levels may be necessary to monitor. Patient should continue folate supplementation during pregnancy. Supplemental vitamin K should be given during the last 2 weeks of pregnancy. Patient and fetus should be monitored for evidence of malformation and growth retardation ideally with ultrasound. AEDs should be changed only when necessary, to improve seizure control.

POST DELIVERY GUIDELINES

AEDs concentration should be monitored through the 8th post partum week .Patient should be counselled on how to deal with seizures and managing child care. Breastfeeding can generally be performed in term infants.

These cases illustrate the importance of precise diagnosis without which there is has no foundation to build a treatment plan on.

They illustrate that even when patients appear similar clinically, they may still be divergent in their response to AEDs. We report outcomes in terms of relative risk.

There is no study till date with enough statistical power to give clear and accurate rates of individual AED exposure. This coupled with the variables of race, geography, pharmacogenetics makes individual case prediction difficult. We can lower but not eliminate risk. One must be willing to modify one's approach to meet the needs of individual patient. The large body of collective medical information allows us to generalise above patients and their condition.

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