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A RETROSPECTIVE STUDY ON MATERNAL AND FETAL OUTCOME OF WOMEN WITH EPILEPSY

Obstetrics & Gynaecology

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ABSTRACT

Background: Epilepsy does not prevent women from becoming pregnant. Women with epilepsy (WWE) should be assured that they can become parents, though it is important to receive continuous medical care and a team-based approach. Before conception, all women with epilepsy should consult a neurologist to assess whether continuing their antiepileptic drugs (AEDs) is necessary or if adjustments are possible. **Materials And Methods:** This hospital-based retrospective study analyze the maternal outcomes of 100 women with epilepsy during pregnancy. **Results:** Seventy-seven percent of the women had epilepsy for over ten years. Generalized tonic-clonic seizures were experienced by 98% of the patients, while only 2% had partial seizures. Seventy-two percent were on monotherapy, while 7% were on polytherapy. Among the births, 15% were preterm and 85% were full-term. Thirty percent of women underwent cesarean sections, and 66% delivered vaginally. Only 3% of women had preconception counselling. **Conclusion:** Managing pregnancy in women with epilepsy requires careful preconception counselling and medical oversight.

KEYWORDS

AEDs, Epilepsy, Maternal Outcome, Pregnancy, Seizures

INTRODUCTION

Epilepsy is a neurological condition that affects approximately 1% of the population globally [1]. It is more prevalent in low- and middle-income countries (LMIC), where 75% of those affected live, and the condition is often linked to social challenges [2][3]. The estimated point prevalence of epilepsy in women is 6.85 per 1000 women, but actual rates may be underreported due to misdiagnosis, particularly in regions where women with epilepsy (WWE) face social stigma [4]. Antiepileptic drugs (AEDs) are the primary treatment for most individuals with epilepsy, and women of reproductive age represent about one-third of those on these medications [5]. Approximately 0.3% to 0.7% of all pregnancies occur in women with epilepsy, and many of these women need to continue AEDs during pregnancy, as uncontrolled seizures pose risks to both the mother and the fetus [6][7][8]. However, in LMIC, due to healthcare challenges and the stigma surrounding epilepsy, the exposure to AEDs and uncontrolled seizures may be more common [9]. While most women with epilepsy experience normal pregnancies, they face a two- to three-fold higher risk of negative outcomes such as maternal morbidity and mortality, fetal death, major congenital malformations, dysmorphia, and developmental delays in the child [10][11]. The risks to the fetus are influenced by the type and dosage of AEDs used, as well as other factors such as maternal age and family history of congenital malformations [8]. For example, the use of valproate during pregnancy is associated with a higher risk of birth defects, and its use is generally advised against unless necessary [12]. Geographic disparities in epilepsy care in LMIC have been linked to worse pregnancy outcomes, including a higher likelihood of sudden unexpected death in epilepsy (SUDEP) and other complications for WWE in resource-poor settings [13–15].

MATERIAL AND METHODS:

This retrospective, descriptive study was conducted at a tertiary care hospital in central India, focusing on epilepsy during pregnancy. The study included all consecutive women with epilepsy who were admitted to the Department of Obstetrics and Gynaecology. Data were collected by reviewing the medical records of these patients, using a structured data collection form. Information gathered included the patient's age, booking status, gravida, and details of their menstrual history to estimate the expected date of delivery. Obstetric histories were thoroughly documented. A complete general and systemic examination was documented, including a detailed central nervous system (CNS) examination, abdominal and vaginal assessments. Blood pressure measurements and fundus examinations were also recorded.

RESULT:

Table – 1

Table 1- Demographic and clinical features of pregnant women with epilepsy			
Particulars	**Sub particulars**	**N**	**Percentage**
Age	Mean ± SD	24.1±3.6	
Antenatal care	Booked	88	88%
	Unbooked	12	12%
Parity	Primi	53	53%
	Multi	47	47%
Duration of disease (in years)	0-5 years	3	3%
	5-10 years	20	20%
	>10 years	77	77%
Type of seizure	GTCS	99	99%
	Partial	1	1%
Disease free interval	0 – 9 months	22	22%
	> 9 months	78	78%
Type of AED therapy	Mono therapy	72	72%
	Polytherapy	7	7%
	Irregular	13	13%
	Discontinued	3	3%
	Nil	5	5%

Table 1 depicts the mean age of pregnant women with epilepsy was 24.1±3.6 years, most of the cases were previously booked i.e. 88%, 53% cases were primigravida while 47% were multigravida. Most of the cases having epilepsy for more than 10 years, 20% from 5-10 years and only 3 % from < 5 years. Generalized tonic clonic seizure (GTCS) was observed as most common type of seizure, most of the patient are on epileptic drug so disease free interval / convulsion free interval of more than 9 month was observed among 78% cases. Most of cases were on monotherapy i.e. 72% while 7% on poly therapy and 13% were irregular to treatment 3% were discontinued the treatment and 5% not on any treatment.

Table-2

Maternal and fetal out come			
Particulars	**Sub particulars**	**N**	**Percentage**
Gestational Age at delivery	Preterm	14	14%
	Term	86	86%
Mode of delivery	Labour natural	66	66%
	Outlet	3	3%
	Assisted breech	3	3%
	LSCS	28	28%

Obstetric Complications	No complication	64	64%
	IUD with Pre term	1	1%
	IUGR	3	3%
	Malpresentation	5	5%
	Oligohydroamnios	3	3%
	Oligo & IUGR	3	3%
	Postdated	8	8%
	Preterm	11	11%
	Preterm & Malpresentation	2	2%
Maternal Outcome	Good	100	100%
	Poor	0	0

Table 2 depicts the gestational age at delivery ranged from 32-42 weeks in this study had 14% cases had preterm delivery and 86 % delivered at term. 66.7 % of cases had normal delivery while 28% of cases underwent LSCS for various indications. Assisted breech and outlet forceps delivery accounted for 3-3%. 64% cases had no complications and 36% cases had mentionable complications.100% cases had good maternal outcome.

DISCUSSION

The patients in this study ranged in age from 18 to 33 years, with a mean mother age of 24.1 years. The age group in this study is approximately equivalent to that of Thomas SV et al [16], who found that the maternal age ranged from 19 to 38 years, with a mean age of 26. In this study, 53.3% of instances were primigravida and 46.7% were multigravida, although Goel et al [17] found the opposite. The bulk of the cases (70.2%) were multigravida. The majority of the cases in this study (88%), were booked cases. In this study, epilepsy lasting more than ten years accounted for 77% of patients, whereas Goel et al [17] found that it accounted for 77% of cases. 72% of the cases had epilepsy for less than ten years. There were no occurrences of epilepsy lasting less than a year. In terms of seizure types, Thomas et al [16] discovered that 59.38% had GTCS and 40.37% had other forms. Chattopadhyay et al [18] discovered 56% GTCS and 44% other kinds in their investigation. In this study, the majority of the cases (98.7%) had GTCS, with only one case (1.3%) having partial seizures.

In this study, 54 patients (72%) were on monotherapy, with 46 patients (61%) on carbamazepine and 8 patients (10.6%) on phenytoin. 6.7% were on polytherapy (3 cases of carbamazepine and phenytoin, 7 cases of carbamazepine and clobazam, and 1 case of phenytoin and lamotrigine), 13.3% were on irregular medication, and 2 cases (2.7%) ceased AED after getting pregnant. In the study conducted by Thomas SV et al [16], 87.5% of cases were treated with monotherapy and 12% with polytherapy.

Premature birth was reported by Chattopadhyay et al [18] in 18.6% of their patients and Goel et al [17] in 21.6%. In this study, 14.7% of babies were born prematurely, while 85.3% were born at term. It demonstrates a modest increase in preterm in epileptic women. 66.7% of cases had normal deliveries, whereas 28% experienced LSCS for a variety of reasons, including failed induction, fetal distress, oligohydramnios, IUGR, and postdated pregnancy. Assisted breech and outlet forceps delivery each accounted for 2.7% of all deliveries. The mode of delivery in epileptic women is roughly equivalent to the findings of Goel et al [17], who found that 62% of cases had normal vaginal delivery, 27% had LSCS, and 10.8% had instrumental delivery.

In their investigations, Thomas SV et al [16] and Chattopadhyay et al [18] had a higher proportion of women undergoing LSCS, accounting for 40.6% and 65.1%, respectively. Fetal distress, failure induction, and uterine inertia were all listed as indications for LSCS by Thomas SV et al [16]. In this study, there were (5.3%) 4 cases of IUGR, (5.3%) 4 cases of oligohydramnios, (8%) 6 cases of malpresentation, and (8%) 6 cases of postdated out of 75 patients. Preterm births accounted for 14.7% of all cases (11 cases). There was one occurrence of fetal death. In 14 cases (18.7%), labour was inducted.

In their investigation, Goel et al [17] found PIH (24.3%), abruption (5.4%), GDM (2.7%), and induction of labour (18.9%). In this study, induction of labour was similar, but there were no cases of abruptio placenta, PIH, or gestational diabetes. Over a fifth of the patients with PIH, preeclampsia, IUGR, postdatism, placental previa, and hydramnios were observed by Thomas SV et al [16]. Chattopadhyay and colleagues [18] found IUGR (9.3%) and premature labour (9.3%), with no incidences of abruptio placenta, placenta previa, PIH, or gestational diabetes. The nature and frequency of obstetric problems vary between studies.

CONCLUSIONS

The positive maternal outcomes observed in this study, along with the lower incidence of obstetric complications, may be attributed to timely prenatal registration, consistent antenatal care, and regular adherence to antiepileptic medication (primarily monotherapy), which was the case for most patients. Women with shorter seizure-free intervals may experience a higher frequency of seizures, underscoring the importance of regular AED use and more frequent prenatal monitoring. It is crucial to consider pregnant women with epilepsy as high-risk cases, requiring comprehensive evaluation, specialized care, and referral to tertiary care centers to ensure optimal maternal health and outcomes.

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