

Fetomaternal Outcomes in Pregnant Women having Epilepsy at Nishtar Hospital, Multan

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ABSTRACT

Background: Epilepsy is a common neurological disorder characterized by recurrent seizures, About 40% females may develop the disorder in reproductive age, leading to episodes of epilepsy in pregnancy and cause severe consequences.

Objective: To determine fetomaternal outcomes in pregnant women having epilepsy at a tertiary care Nishtar hospital MULTAN

Study Design: Retrospective study

Study Place and duration: Department of Obstetrics & Gynecology, in collaboration with Neurology Department, Nishtar Hospital Multan from 1st Jan 2021 to 31st Dec 2021

Patients and Methods: A total of 100 pregnant women with epilepsy were included in the study. The patients with epilepsy were recruited for pregnancy outcomes till delivery to determine outcomes. All the relevant information was noted in proforma while analysed in SPSS.

Results: Age range in this study was from 20 to 40 years with mean age of 28.951±2.69 years. Majority of the patients were of 20-30 age group i.e. 78%. C-section was done in 24.4% patients, low birth weight was observed in 19.5% patients, small for gestational age 9.8% and preterm delivery was 19.5%.

Conclusion: Our study concluded that pregnancies with epilepsy, even in cases with multidisciplinary care and no other risk factors, are still significantly associated with higher adverse outcomes.

Key words: Epilepsy, Adverse fetomaternal outcomes, cesarean section, low birth weight, preterm delivery

INTRODUCTION

With an annual prevalence of 40 to 80 per 100,000 people worldwide, epilepsy is a prevalent neurological illness characterised by recurring seizures.¹⁻³ Because the illness affects about 40% of women in the reproductive age range, epilepsy during pregnancy is rather common, with a prevalence of 0.3-0.7%. It is the most prevalent neurologic ailment that needs to be treated medically while a woman is pregnant.⁴ There is a belief that women who have epilepsy are more likely to experience problems during childbirth. There have been inconsistent reports with many poor pregnancy outcomes, including low birth weight (LBW), preterm birth (PTB), obstetric haemorrhage, perinatal mortality, and development delay.^{5,6}

When compared to the general population, women with epilepsy have a higher risk of preeclampsia, according to some writers, although no increase has been observed by others.⁷ Despite the increased risk of congenital abnormalities and impaired cognitive development in the offspring of women on antiepileptic drugs, maternal antiepileptic drug therapy is routinely maintained during pregnancy to avoid the hazards associated with seizures for both the mother and the foetus. The primary focus of follow-up research on epileptic pregnant women has been on the relationships between antiepileptic medication exposure and congenital abnormalities and cognitive development in the offspring. On the other hand, pregnancy and perinatal difficulties in epileptic women may not be limited to side effects of medication. Women with epilepsy may experience a ten-fold increase in maternal mortality compared to those without the condition.^{8,9} Women who have epilepsy may be at higher risk for preterm birth, caesarean sections, miscarriages, preeclampsia, and pregnancy hypertension.¹ According to Soontornpun et al. from Thailand, 23.6% of pregnant women with epilepsy had a caesarean section, 18.1% had a preterm delivery, 19.4% had low birth weights, and 11.8% had tiny for gestational age babies.^{6,10}

Extreme research on www.pakmedinet.com, www.pubmed.com and Google scholar it was found that there is no such study done in our local population of Southern Punjab on this topic, so the results of this study will generate useful database of our local population but we commonly observe pregnant ladies with epilepsy in our daily routine. Only one study has been done in Pakistan, from Islamabad, which was retrospective study done with

very low sample size of only 19 patients. So the results of this study cannot be generalized on our large population subset. Keeping these facts in mind, we have planned this study to give more reliable insight on this issue which will help clinicians for early diagnosis and timely management of adverse pregnancy outcomes in these ladies.

MATERIAL AND METHODS

Study Design: Retrospective study

Study Place and duration: Department of Obstetrics & Gynecology, in collaboration with Neurology Department, Nishtar Hospital Multan from 1st Jan 2021 to 31st Dec 2021

Sample size: Sample size was 100 females, that was estimated by keeping confidence level at 95%, margin of error at 10% and percentage of epilepsy in pregnancy i.e. 40%.⁴

Sampling technique: Non-probability, consecutive sampling

Selection of patients:

Inclusion: Pregnant females of age 20-40 years, parity <5, presenting with singleton pregnancy at gestational age >32 weeks having confirmed diagnosis of epilepsy.

Exclusion: Females with other neurological or mental abnormalities, having eclampsia were not included in the study.

Data collection: A total of 100 pregnant women with epilepsy were included in the study from gynecology emergency and were stabilized there. All the females will be followed-up in gynecology wards until delivery. The adverse fetomaternal outcomes were noted as preterm delivery if delivery occurred before 37 completed gestational weeks. Mode of delivery was also noted as caesarean section or vaginal delivery. On delivery. Neonates were assessed and Apgar score, birth weight, small for gestational age and admission to neonatal intensive care unit. All the relevant information was noted in proforma.

Data analysis: Data was entered and analysed in SPSS v. 25. Adverse fetomaternal outcomes were analyzed as frequency and percentage and presented as tables and graphs.

RESULTS

The mean age of females in this study was 28.95 ± 2.69 years. Majority of the patients were of 20-30 age group i.e. 78%. The mean gestational age at presentation was 35.81 ± 3.55 weeks.

The mean BMI of females was $28.91 \pm 8.84 \text{ kgm}^2$. There were 12 (12%) primigravida, 47 (47%) had parity 1-2 and 41 (41%) had parity 3-4. Out of 100 females, 29 (29%) came from rural area, 55 (55%) from urban area and 16 (16%) from semi-urban area. About 37 (37%) females belong to low socioeconomic status, 49 (49%) had middle socioeconomic status, and 14 (14%) had high socioeconomic status. Table I

At delivery, the mean gestational age was 36.58 ± 2.51 weeks. Out of 100 females, preterm delivery was noted in 19 (19%) females, while 81 (81%) were delivered at term. Cesarean section was done in 30 (30%) patients, while vaginal delivery was noted in 70 (70%) cases. premature rupture of membranes was noted in 30 (30%) females. No maternal death occurred. In neonatal outcomes, mean Apgar score was noted as 7.2 ± 2.6 and poor Apgar score (<7 after 5 minutes) was noted in 37 (37%) neonates. Low birth weight was observed in 19 (19%) neonates, small for gestational age 10 (10%) and NICU admission was noted in 56 (56%) cases. Table II

Table I: Baseline investigations of females (n = 100)

	Mean \pm SD, f (%)
Age (in years)	28.95 \pm 2.69 years
Age 20-30 years	78 (78%)
Age 31-40- years	22 (22%)
Gestational age (weeks) at presentation	35.81 \pm 3.55 weeks
Parity	
Primigravida	12 (12%)
Parity 1-2	47 (47%)
Parity 3-4	41 (41%)
BMI	28.91 \pm 8.84 kgm^2
Residence	
Rural area	29 (29%)
Urban area	55 (55%)
Semi-urban area	16 (16%)
Socioeconomic status	
Low	37 (37%)
Middle	49 (49%)
High	14 (14%)

Table II: Adverse feto-maternal outcomes in pregnant females with epilepsy (n = 100)

Outcome	Mean \pm SD, f (%)
Gestational age at delivery	36.58 \pm 2.51
Preterm delivery	19 (19%)
Term delivery	81 (81%)
Mode of delivery	
Cesarean section	30 (30%)
Vaginal delivery	70 (70%)
Premature rupture of membranes	30 (30%)
Maternal death	0 (%)
Neonatal outcomes	
Mean Apgar score	7.2 \pm 2.6
Poor Apgar score (<7 after 5 minutes)	37 (37%)
Low birth weight	19 (19%)
Small for gestational age	10 (10%)
NICU admission	56 (56%)

DISCUSSION

After migraines, epilepsy is the second most prevalent neurological condition in obstetrics. Reports about the impact of epilepsy on pregnancy are contradictory.¹¹ One of the most prevalent neurological conditions in obstetrics is epilepsy. There is a higher chance of difficulties during an epileptic pregnancy, including intrauterine growth restriction, preterm delivery, stillbirths, antepartum haemorrhage, and preeclampsia.¹²

In our study, females delivered at mean gestational age of 36.58 ± 2.51 weeks, among them 19 (19%) had preterm delivery. Premature rupture of membranes was occurred in 30 (30%) females and cesarean section was done in 30 (30%) patients. No maternal death was noted during follow-up.

According to Khursheed et al., 65% of cases ended in a cesarean section. Ten of the 14 patients (or35%) who gave birth

vaginally were induced, and 5% of them experienced an early rupture of the membranes. There were no maternal deaths. 10% of the cases were preterm, 22.5% had low birth weights, and 15% had tiny for gestational age babies.¹² Raji and Sekar discovered that anaemia, gestational diabetes mellitus, gestational hypertension, intrauterine growth retardation, preterm rupture of the membrane, and vaginal bleeding were among the pregnancy issues experienced by epileptic women. 91.82% of births were live. Of the babies, 24 (21.82%) had low birth weights.¹³

After migraines, Kakar et al. found that epilepsy is the neurological condition that occurs most frequently in obstetrics. Seizures disorders are thought to affect between 0.3 and 0.5% of pregnancies. Compared to infants who are not exposed to antiepileptic medicines (1-2%), babies born to moms who have epilepsy and who were exposed to these drugs during pregnancy have a higher chance of birth abnormalities (4-6%). According to their research, their hospital's pregnancy-related epilepsy incidence was 0.54%. In 28 cases (21.5%) of mothers, gestational hypertension was the most frequent consequence. The majority of women, or 74, or 56.9%, had caesarean sections as their method of delivery. They came to the conclusion that, in order to reduce the risk of problems and preserve effective seizure control, these women should be treated with monotherapy at the lowest dose feasible. The tight collaboration between the paediatrician, obstetrician, and neurologists helps reduce the risk of prenatal problems.¹²

In our study, the mean Apgar score of neonates at delivery was 7.2 ± 2.6 and poor Apgar score (<7 after 5 minutes) was noted in 37 (37%) neonates. Low birth weight (<2.5 kg weight) was observed in 19 (19%) neonates, small for gestational age (<25th percentile as per WHO classification) was noted in 10 (10%) neonates. Out of 100, 56 (56%) neonates were admitted to NICU.

According to a research by Raji et al., gestational diabetes affected 20% of the women, and PROM affected 7.27% of the patients.¹³ Malik et al. conducted a study in which 38 instances experienced pregnancy-related problems, with gestational hypertension accounting for the majority of cases (20%). 74 (56.9%) of the 130 women in the study had a lower segment caesarean section, followed by 46 (35.4%) vaginal deliveries that were normal, 6 (4.6%) vaginal deliveries with assistance, and 4 (3.1%) abortions.¹⁴

According to Nibeta et al., because these patients had high-risk pregnancies with fewer foetal movements and because some of the patients chose to have one, the rate of caesarean sections was greater, at 65.1%.¹⁵ A research by Raji et al. found that 62.72% of labours were spontaneous and 28.18% of caesarean sections.¹³ According to Nibedita et al., 9.3% of cases had IUGR, and 9.3% had premature labour.¹⁵ In their investigation, Raji et al. also noted live birth in 96 (91.43%) of the instances. 22 newborns weighed less than 2.5 kilogramme. Thirteen newborns (10.0%) were born prematurely, after 25 (19.2%) with low birth weight. Twelve (9.2%) newborns had IUGR, ten (7.7%) had stillbirths, three (2.3%) suffered hypoxia at birth, and three (2.3%) passed away. Just 2 (1.5%) of the newborns had a congenital defect. Of the newborns, 12 (11.43) had preterm.¹³ In their investigation, Nibedita et al. also noted low birth rates in 23.3% of the newborns, preterm in 18.6%, IUGR in 9.3%, and birth hypoxia in 2.3% of the newborns.¹⁵

CONCLUSION

Our study reflected real experience in the treatment of pregnant women where the pregnancy is complicated by epilepsy, and the results indicate that in spite of a multidisciplinary approach in antenatal care, the unfavorable outcomes were still somewhat higher than those in a comparable general population, suggesting that a greater emphasis needs to be placed on the care in such pregnancies.

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