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Study Of Clinical Profile Of Convulsion In Pregnancy.

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ABSTRACT

Convulsions in pregnancy present a significant medical emergency, with potential implications for both maternal and fetal well-being. This prospective observational analytical study, conducted over 18 months at a tertiary care hospital, aimed to elucidate the clinical profile of convulsions in pregnancy, exploring demographic factors, trimester-wise distribution, episode frequency, hypertensive associations, and complications. A total of 80 pregnant females experiencing convulsions were included after stabilization, excluding cases of eclampsia. Demographic characteristics, including age distribution and gravidity, were analyzed. Trimester-wise and episode frequency distributions were assessed. Hypertensive associations and complications arising from convulsions were meticulously recorded. The study revealed a predominance of convulsions in the 22-25 age group, with 70% being primigravida. A significant association (p value = 0.01) was observed between convulsions and the third trimester. Most participants (80%) experienced a single convulsive episode. Hypertension was present in 18% of cases. Complications included sepsis (7.5%) and aspiration (5%), with one mortality case. This study provides comprehensive insights into the clinical dynamics of convulsions in pregnancy, emphasizing the need for heightened vigilance, especially in the third trimester. Understanding demographic and clinical factors influencing convulsions facilitates targeted interventions for improved outcomes.

Keywords: Convulsions, Pregnancy, Trimester-wise Distribution, Complications, Hypertension.

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INTRODUCTION

Pregnancy represents a unique physiological state characterized by complex interactions between maternal and fetal factors [1]. One of the critical complications that can arise during this period is convulsions, posing a substantial threat to both maternal and fetal well-being. Despite advancements in obstetric care, convulsions in pregnancy remain a significant concern, necessitating a detailed investigation into their clinical profile [2]. Our research study aims to systematically examine the diverse aspects of convulsions in pregnancy, encompassing risk factors, clinical manifestations, diagnostic challenges, and outcomes [3, 4]. By elucidating the intricate dynamics involved in convulsive episodes during pregnancy, we strive to enhance our understanding of the underlying mechanisms, refine diagnostic approaches, and ultimately contribute to the development of targeted interventions for improved maternal and fetal outcomes [5-7]. This study underscores the urgency of a comprehensive exploration of convulsions in pregnancy, recognizing the potential implications for both clinical practice and public health.

MATERIAL AND METHODS

The study was conducted at a tertiary care hospital over an 18-month period, spanning from August 2018 to January 2020. Employing a prospective observational analytical design, the research aimed to comprehensively investigate the clinical profile of convulsions in pregnant females within the emergency ward or ICU setting. A sample size of 80 participants was determined, each meeting the inclusion criteria of developing convulsions during pregnancy, as diagnosed based on historical information and clinical assessment. Informed and written consent from close relatives were obtained before their inclusion in the study.

Exclusion criteria were established to ensure the specificity of the study population. Pregnant females who experienced convulsions due to head injury, drug abuse, or poisoning were excluded from the study, as were cases where consent from close relatives was not granted. Additionally, individuals with eclampsia, a known cause of convulsions in pregnancy, were excluded to maintain focus on other potential etiologies.

Upon admission to the emergency unit, the first priority was the stabilization of vital functions. Intravenous lorazepam (0.1mg/kg) was administered to all patients for the cessation of active convulsions. Concurrently, acute respiratory and cardiovascular issues were promptly addressed. Following initial stabilization, a detailed history was obtained, encompassing relevant factors associated with convulsions during pregnancy. Assessment of consciousness levels and clinical examinations, including heart rate, blood pressure, pupillary reflexes, and fundoscopy, were meticulously conducted and recorded for each participant in the study.

RESULTS

In our study total 80 pregnant females who developed convulsions had been included after stabilization of active convulsion and excluding eclampsia.

In our study most affected age group is 22-25 years. Mean age for convulsion in pregnancy is 24.1 yrs. In our study of 80 pregnant females 56 (70 %) were primigravida and 24 (30%) were multigravida.

Table 1: Trimester wise distribution of Convulsion in pregnancy

Trimester of development of convulsions	Number of patients(n=80)	Percentage
Third	40	50%
Second	17	21.25%
First	23	28.75%

P value 0.01 significant

40 (50%) patient developed convulsion in their third trimester of pregnancy and 17 (21.25%) in their second trimester and 23 (28.75%) developed convulsion in first trimester.

Table 2: Distribution of pregnant female according to number of convulsions.

Number of convulsive episodes	No of patients (n=80)	Percentage
Single convulsion	64	80%
Multiple convulsion	16	20%

P value 0.19 not significant

In our study 80 % pregnant female had single episode and rest 20% had multiple episodes of convulsion. Only 18 % of pregnant female found to be Hypertensive (BP > 140/90 mmHg) in convulsive females.

Table 3: Complications of convulsion in pregnancy

Complication	Number of patients (n=16)
Acute kidney Injury	3
Aspiration	4
Pulmonary Edema	2
Sepsis	6
Death	1

In pregnant females with convulsions complications were common, among them frequently observed were sepsis 7.5 % and aspiration 5% of total pregnancies. One female died who had Intraparenchymal bleed with midline shift with aspiration pneumonitis with respiratory failure.

In our study out of 80 patients' sepsis was most common complication and it was most common in meningitis with primigravida with GTCS type of convulsion and most common age group affected was 18-21 yrs.

DISCUSSION

Convulsions during pregnancy represent a critical medical emergency requiring prompt intervention and thorough investigation. Our study, conducted over an 18-month period in a tertiary care hospital, sheds light on various aspects of convulsions in pregnancy, encompassing demographic factors, trimester-wise distribution, the frequency of convulsive episodes, hypertensive associations, and complications. The findings provide valuable insights into the clinical profile of convulsions in pregnant females and can guide both clinical management and future research efforts [8, 9].

The most striking demographic feature in our study was the predominance of the 22-25 age group among pregnant females experiencing convulsions, with a mean age of 24.1 years. This aligns with existing literature, highlighting the vulnerability of younger women to certain pregnancy-related complications. The preponderance of primigravida (70%) compared to multigravida (30%) further emphasizes the need for targeted antenatal care and surveillance in this specific demographic [10].

Trimester-wise analysis revealed a significant association between the occurrence of convulsions and the third trimester (50%), followed by the first (28.75%) and second trimesters (21.25%). This temporal distribution is consistent with previous studies associating a higher risk of convulsions with late pregnancy, possibly due to increased physiological stress on the body during this period. The statistical significance (p value = 0.01) emphasizes the importance of heightened vigilance and monitoring during the third trimester [11].

Regarding the frequency of convulsive episodes, our study indicated that the majority of pregnant females (80%) experienced a single convulsive episode, while 20% had multiple episodes. Although not statistically significant (p value = 0.19), this finding underscores the potential variability in the clinical course of convulsions during pregnancy. The identification of factors contributing to the recurrence of convulsions in a subset of patients warrants further exploration.

Hypertension is a well-established risk factor for convulsions in pregnancy, particularly in the context of eclampsia. However, in our study, only 18% of convulsive pregnant females exhibited

hypertensive readings (BP > 140/90 mmHg). This raises intriguing questions about the diverse etiologies of convulsions during pregnancy and suggests that non-hypertensive factors may play a substantial role in their pathogenesis. Further investigations into these factors are crucial for refining risk stratification and therapeutic approaches.

Complications arising from convulsions during pregnancy were not uncommon in our study. Among the observed complications, sepsis and aspiration were prominent, occurring in 7.5% and 5% of total pregnancies, respectively. These findings highlight the need for comprehensive management strategies addressing both the convulsive episodes and their potential consequences. The occurrence of sepsis, in particular, warrants close attention, as it emerged as the most common complication in our study. The association with meningitis, primigravida status, and generalized tonic-clonic seizures (GTCS) adds granularity to our understanding of the intricate interplay between convulsions and secondary complications.

Tragically, one pregnant female in our study succumbed to complications, specifically intraparenchymal bleed with midline shift, aspiration pneumonitis, and respiratory failure. While mortality is a rare outcome in contemporary obstetric care, this case underscores the gravity of convulsions during pregnancy and the potential for catastrophic consequences. The identification of specific risk factors contributing to such severe outcomes is crucial for implementing targeted interventions aimed at preventing mortality in this population.

The analysis of complications also revealed the multifaceted nature of convulsions during pregnancy. Acute kidney injury, pulmonary edema, and sepsis collectively contribute to the complex clinical landscape. The identification of sepsis as a recurring complication emphasizes the importance of infection control measures and vigilant monitoring in convulsive pregnant females, particularly those with predisposing factors such as meningitis and GTCS.

Our study is not without limitations. The relatively small sample size may limit the generalizability of our findings, and the single-center nature of the study may introduce institutional biases. Additionally, the exclusion of eclampsia cases may have implications for the overall understanding of convulsions in pregnancy, as eclampsia is a well-established cause of seizures in this population.

CONCLUSION

In conclusion, our research contributes valuable insights into the clinical profile of convulsions in pregnancy, offering a nuanced understanding of demographic characteristics, temporal distribution, episode frequency, hypertensive associations, and complications. These findings underscore the need for a holistic approach to the management of convulsions during pregnancy, encompassing both the acute episodes and their potential sequelae. Future research endeavours should aim to expand on these findings, exploring the intricate mechanisms underlying convulsions in pregnancy and refining risk stratification strategies for improved clinical outcomes.

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