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The Prevalence of Fetal Growth Restriction in Pre-Eclampsia Patients Kustia Medical College and Hospital

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Abstract **Original Research Article**

Objective: In this study our main goal is to evaluate the prevalence of fetal growth restriction in pre-eclampsia patients Kustia Medical college and hospital. ***Method:*** This cross-sectional study was conducted from March 2018 to 1st May 2019. A total of 312 with complicated pregnancy complicated by pre-eclampsia were included as sample populations. During data collection, severe pre-eclampsia was defined according to the ACOG guidelines were followed. ***Results:*** During the study, majority were belonging to 18-21 years age group. 96.15% patients were housewife and 48.72% patients just passed their secondary level of educations. 73.3% cases were 35-37 weeks of gestational age. According conditions they were faced where 48.07% patients undergone disturbance of sleep followed by 48.07% cases face oedema of leg, 46.47% had headache, 48.71% had Epigastria pain, 9.62% had eye symptoms. ***Conclusion:*** While severe early-onset pre-eclampsia is a rare pregnancy complication, concurrent FGR complicates a large proportion. In terms of clinical reassurance, the presence of FGR was not related with a more severe maternal pre-eclamptic presentation in our group, but it was associated with newborn mortality. The precise underlying aetiology that results in their common appearance is still being studied.

Keywords: Fetal growth restrictions, pre-eclampsia, fetal death.

INTRODUCTION

Preeclampsia (PE) is a pregnancy-related hypertension disease with a reported prevalence of 3–8 percent [1].

PE, a primary cause of preterm delivery, can endanger both maternal and fetal/neonatal life, accounting for more than 50,000 maternal and 500,000 neonatal deaths globally each year [2].

The precise and comprehensive etiology of PE is uncertain. However, inadequate trophoblast invasion and angiogenesis, as well as inappropriate remodeling of uterine spiral arteries and increased production of antiangiogenic factors like soluble fms-like tyrosine kinase 1 (sFlt-1) and soluble endoglin (sEng), have been identified as important contributors [3, 4].

These incorrect reactions can cause uteroplacental dysfunction and, as a result, maternal endothelial dysfunction, which can contribute to the development of PE. Fetal growth restrictions is caused by uteroplacental dysfunction, which produces placental hypoxia and nutritional insufficiency (FGR). Despite the fact that several research have been conducted to examine therapies for slowing PE development a practical and viable therapy has yet to be discovered. As a result, for the time being, delivery is the sole therapy option for PE [5].

In this study our main goal is to evaluate the fetal growth restriction in pre eclampsia patients Kustia Medical college and hospital.

OBJECTIVE

- To assess the prevalence of the fetal growth restriction in pre-eclampsia patients Kustia Medical college and hospital.

METHODOLOGY

This cross-sectional study was conducted from march 2018 to 1st May 2019. A total of 312 with complicated pregnancy complicated by pre-eclampsia

were included as sample populations. During data collection, severe pre-eclampsia was defined according to the ACOG guidelines were followed.

The data analysis was done using SPSS version 22 statistical software. Student t test, MannWhitney U test and Fisher exact test were used to compare the data. All P values < 0.05 were considered statistically significant.

RESULTS

Where in table-1 shows age distribution where majority were belonging to 18-21 years age group. The following table is given below in detail:

Table-1: Age distribution

Age of the patients		
	Frequency	**Percent**
18-21 years	110	35.26
22-25 years	74	23.72
26-29 years	36	11.54
>29 years	92	29.48
Total	312	100.0

In table-2 shows demographic status of the patients where most of the patients were housewife, 96.15% and 48.72% patients just passed their secondary level of educations. The following table is given below in detail:

Table-2: Demographic status of the patients

Demographic status	**n**	**%**
Education level:		
Illiterate	37	11.8
Primary	91	29.17
Secondary	152	48.72
SSC	32	10.31
Occupations:		
Housewife	300	96.15
Student	10	3.21
Service holder	2	.64
Income status		
>10000 tk monthly	158	50.64
<10000 tk monthly	154	49.36

In figure-1 shows parity distribution of the patients where majority were primigravida, 66.70% the following figure is given below in detail:

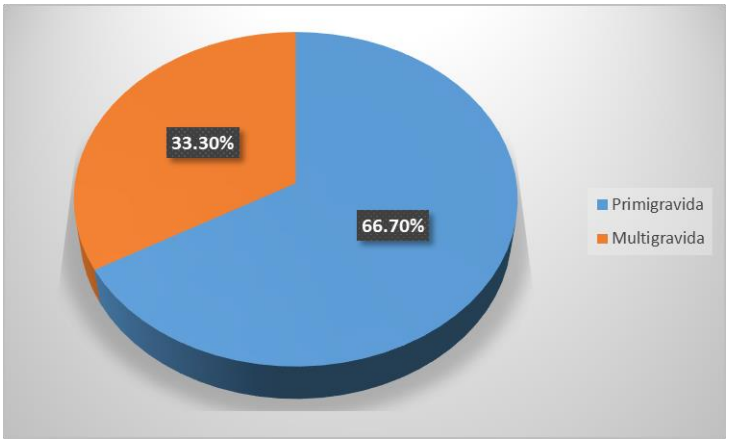

Figure-1: Parity distribution

In figure-2 shows distribution of the patients according to gestational age where 73.3% cases were 35-37 weeks of gestational age. The following figure is given below in detail:

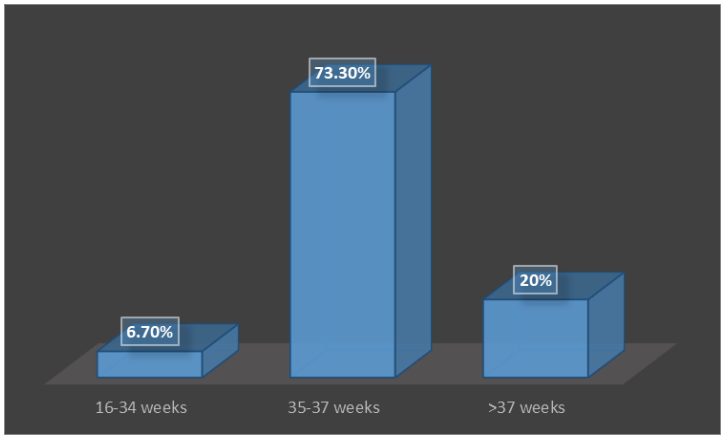

Figure-2: Distribution of the patients according to gestational age

In table-3 shows clinical status of the patients where all had stage-II hypertension followed by 46.80% fetal weight was 2.6-3.2 kg the following table is given below in detail:

Table-3: Clinical status of the patients

	n	%
Blood pressure:		
140/90 to 155/100	**280**	**89.74**
>155/100	**32**	**10.26**
Ai in urine:		
Present	**250**	**80.12**
Absent	**62**	**19.88**
Fetal weight:		
1.9-2.5 kg	**166**	**53.20**
2.6-3.2 kg	**146**	**46.8**
Oligo hydramnios		
Present	**298**	**95.51**
Absent	**14**	**4.49**

In figure-3 shows Antenatal visits of the patients where 56.67% cases visit just one times. The following figure is given below in detail:

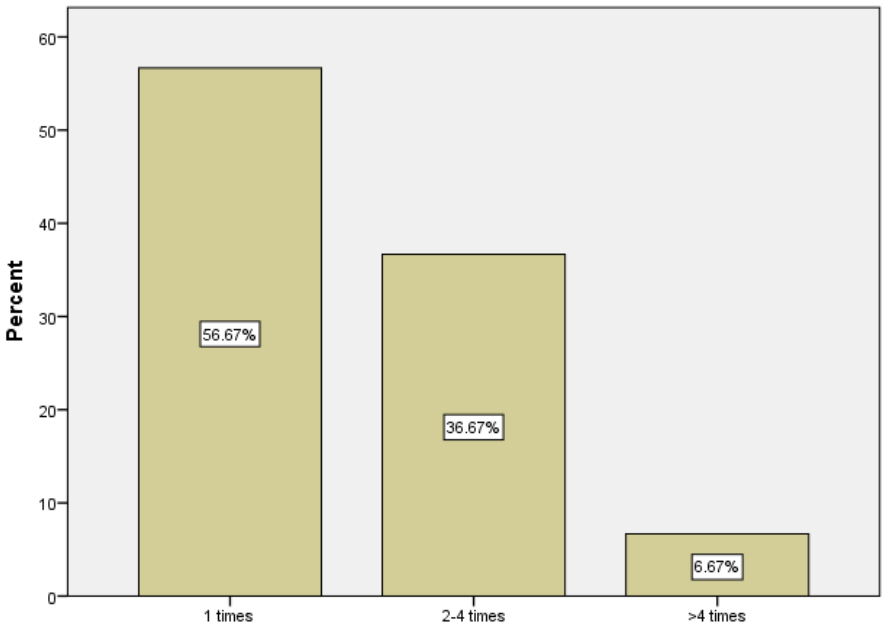

Figure-3: Antenatal visits of the patients

In table-4 shows distribution of the patients according conditions they were faced where 48.07% patients undergone disturbance of sleep followed by 48.07% cases face oedema of leg, 46.47% had headache, 48.71% had Epigastria pain, 9.62% had eye symptoms. The following table is given below in detail:

Table-4: Distribution of the patients according conditions they were faced

	n	%
Oedema of leg		
Yes	150	48.07
No	162	51.93
Headache		
Yes	145	46.47
No	167	53.53
Disturbance of sleep		
Yes	150	48.07
No	162	51.93

Diminished urinary output		
Yes	148	47.43
No	164	52.57
Epigastria pain		
Yes	152	48.71
No	160	51.29
Eye symptoms		
Yes	30	9.62
No	282	90.38
Previous symptoms		
Present	18	5.77
c/s	20	6.41
normal vaginal delivery NVD)	70	22.43
Absent	200	64.10
Fetal death	4	1.28

DISCUSSION

One study showed that women with pre-eclampsia and FGR were more likely to demonstrate significantly elevated hypertension and proteinuria compared to their pre-eclamptic counterparts carrying appropriately grown infants [6].

In keeping with one the cohort affected by FGR had significantly elevated risks of abruption, coagulopathy and HELLP syndrome [7].

Which was quite similar to our study where we found all cases who suffered stage-II hypertension.

However, a possible explanation for these findings could relate to the difference in gestational ages between those complicated by FGR compared to those without FGR in that study [8].

In one study reported that, the FGR group delivered on average at 32.6 weeks consistent with a diagnosis of early-onset pre-eclampsia. However, the non-FGR group delivered on average at 36.1 weeks. While this is still pre-term it is more consistent with late onset pre-eclampsia, which is often a less severe disease and is associated with less maternal risk [9].

More recently a number of studies have suggested that the presence of FGR does not alter the severity of maternal disease relating to pre-eclampsia [10-12].

Where as in our study we found that, 73.3% cases were 35-37 weeks of gestational age which was supported by other reports [13-15].

The main advantage of our data in comparison to other contemporaneous studies is that we focused solely on the severe early-onset pre-eclamptic population, the population group at highest risk of severe maternal morbidity and mortality. Secondly, we are the first to examine the severity of the pre-eclamptic disease as our primary outcome.

CONCLUSION

While severe early-onset pre-eclampsia is a rare pregnancy complication, concurrent FGR complicates a large proportion. In terms of clinical reassurance, the presence of FGR was not related with a more severe maternal pre-eclamptic presentation in our group, but it was associated with newborn mortality. The precise underlying aetiology that results in their common appearance is still being studied.

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