Nullipara Dominate Multipara in PIH
(Original Research Article)

Authors
Dr Rakesh Kumar Shukla1*, Dr R.K Srivastava2, Dr Sapna Singh3, Dr Archana Mishra4

1Ph.D Scholar, Department of Anatomy, Rama Medical College, Kanpur, UP, INDIA
2Principal & Guide, Rama Medical College, Kanpur, UP, INDIA
3Associate Professor, Department of Gyne-Obs, Rama Medical College, Kanpur, UP, INDIA
4Demonstrator, Department of Biochemistry, GSVM Medical College, Kanpur, UP, INDIA

*Corresponding Author
Dr Rakesh Kumar Shukla
Ph.D Scholar, Department of Anatomy, Rama Medical College, Kanpur, UP, INDIA
Email: 0522rakesh@gmail.com

ABSTRACT
Background: - Hypertension is the most common medical problem in pregnancy, complicating up to 15% of pregnancies.

Aim and Objective: - The aim of this study to understand the effect of Pregnancy induced hypertension (PIH) on the parity of pregnancy.

Method: - This study was done in Rama Medical College, Kanpur. Forty four cases of PIH studied who were either nulliparous, primiparous or multiparous.

Result: - Observational study revealed that nulliparous women are at high risk of PIH followed by primiparous then multiparous.

Conclusion: - PIH affect the parity.

Keywords: - PIH, Hypertension, Parity, Nulliparous, Primiparous, Multiparous, Pregnancy.

Introduction
Pregnancy Induced hypertension is that hypertension that develop as a direct result of gravid state. It includes Gestational hypertension, pre-eclampsia and eclampsia. Where rise in systolic pressure is 30 mm Hg or diastolic pressure is 15 mm Hg over the previously know pressure [1].

Hypertension, complicating 7% to 15% of all pregnancies, is a leading cause of maternal and foetal morbidity, particularly when elevated blood pressure (BP) is due to preeclampsia, either alone (pure) or “superimposed” on chronic vascular disease [2, 3].

A woman who has never carried a pregnancy beyond 20 weeks is nulliparous, and is called a nullipara or para 0 [4]. A woman who has given birth once before is primiparous, and is referred to as a primipara or primip; moreover, a woman who has given birth two or more times is multiparous and is called a multip. Finally, grand multipara describes the condition of having given birth three or more times.
The relationship between parity and pregnancy complications continues to be of interest to obstetricians [5-9]. Parity has been used as a risk marker with nulliparous and grand multiparous women classified as at higher risk of pregnancy complications [10]. Nulliparous women are considered to be at risk of pregnancy-induced hypertension and fetopelvic disproportion leading to operative delivery, whereas the grand multiparous are considered to be at risk for haemorrhage, malpresentation, anaemia, uterine rupture and complications associated with chronic medical problems such as diabetes and hypertension [11].

Normal labour in a primagravida is significantly different to normal labour in multiparous women, as physiologically the uterus is a less efficient organ, contractions may be poorly coordinated or hypotonic. The average first stage in a primagravida is significantly slower than in a multiparous woman (primarily due to the rate of cervical dilation) [12]. Therefore, progress is expected to be slower but delay longer than expected should prompt augmentation in managed labour.

**Aim and Objective**
The aim of this study to understand the effect of Pregnancy induced hypertension (PIH) on the parity of pregnancy.

**Material and Method**
This study was done in Department of Gyne Obs and Rama Hospital, Rama Medical College, Kanpur. Forty four cases of PIH studied who were either nulliparous, primiparous or multiparous diagnosed for POG with Preeclampsia, Eclampsia and sever PIH.

**Inclusion Criteria**
- Gestational hypertension Without proteinuria or pathological oedema.
- Pre-eclampsia-Hypertensio and proteinuria with or without pathological oedema.
- Eclampsia – Pre-eclampsia complicated with convulsions and/or coma.
- Pre-eclampsia or eclampsia superimposed on chronic hypertension.

<table>
<thead>
<tr>
<th>Exclusion Criteria</th>
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</thead>
<tbody>
<tr>
<td>Chronic hypertension</td>
</tr>
<tr>
<td>Essential hypertension</td>
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<tr>
<td>Chronic renal disease (reno vascular)</td>
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<tr>
<td>Coarctation of aorta</td>
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<tr>
<td>Pheochromocytoma</td>
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<tr>
<td>Thyrotoxicosis</td>
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<tr>
<td>Connective tissue disease-systemic lupus erythematosous</td>
</tr>
<tr>
<td>Pre-existing Diabetes mellitus (IDDM-Type 1)</td>
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<tr>
<td>Pre-existing Diabetes mellitus (NIDDM-Type 2)</td>
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<tr>
<td>Gestational Diabetes Mellitus (GDM)</td>
</tr>
<tr>
<td>Twins Pregnancy</td>
</tr>
</tbody>
</table>

**Result**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Cases</th>
<th>S.B.P range mm Hg</th>
<th>D.B.P range mm Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nulliparous</td>
<td>20</td>
<td>140-200</td>
<td>95-130</td>
</tr>
<tr>
<td>Primiparous</td>
<td>15</td>
<td>138-164</td>
<td>90-100</td>
</tr>
<tr>
<td>Multiparous</td>
<td>9</td>
<td>140-210</td>
<td>90-114</td>
</tr>
</tbody>
</table>

Frequencies of Nulliparous were higher than Primiparous followed by Multiparous.

**Discussion**
In this study it has been observed that 20 cases of PIH were nulliparous, where as 15 cases were primiparous and 9 were multiparous. Many theories have been proposed regarding the cause of higher frequency in nulliparaous. Nulliparous pregnancies had higher circulating sFlt1 levels and sFlt1/PlGF ratios than multiparous pregnancies, suggesting an association with an angiogenic imbalance [13]. Nulliparous pregnant women have higher blood pressure levels throughout pregnancy and higher risks of notching and gestational hypertensive disorders. The first pregnancy might be a major risk factor for maternal hemodynamic maladaptations and vascular complications. Further studies are needed to explore the
underlying mechanisms and consequences for fetal growth and development [14].

Conclusion

- Hypertension affects the parity in pregnancy.
- Hypertension complicates the pregnancy.
- Nulliparous women are at high risk of PIH followed by Primiparous then Multiparous

Reference