



Nullipara Dominate Multipara in PIH

(Original Research Article)

Authors

**Dr Rakesh Kumar Shukla^{1*}, 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 primigravida 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 primigravida 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.

Exclusion Criteria

- Chronic hypertension
- Essential hypertension
- Chronic renal disease (reno vascular)
- Coarctation of aorta
- Pheochromocytoma
- Thyrotoxicosis
- Connective tissue disease-systemic lupus erythematosus
- Pre-existing Diabetes mellitus (IDDM-Type 1)
- Pre-existing Diabetes mellitus (NIDDM-Type 2)
- Gestational Diabetes Mellitus (GDM)
- Twins Pregnancy

Result

Groups	Cases	S.B.P range mm Hg	D.B.P range mm Hg
Nulliparous	20	140-200	95-130
Primiparous	15	138-164	90-100
Multiparous	9	140-210	90-114

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 nulliparous.

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

1. Dutta D.C. Text book of obstetrics including perinatology & contraception. 6th ed. Kolkata: New central book agency, 2004.
2. Ness RB, Roberts JM. Epidemiology of Hypertension. In: Lindheimer MD, Roberts JM, Cunningham FG, eds. Chesley's Hypertensive Disorders in Pregnancy. 2nd ed. Stamford, CT: Appleton & Lange; 1999:43–65 (3rd edition revision in press, May 2009, Elsevier).
3. Villar J., Say L., Gulmezoglu A.M., et al. Pre-eclampsia Eclampsia: a Health Problem for 2000 years. In: Critchly H, Mac Lean A, Poston L, Walker J, eds. Pre-eclampsia. London, England: RCOG Press; 2003:189–207.
4. F. Gary Cunningham, 2005. Williams Obstetrics, 22nd Edition, McGraw-Hill Companies.
5. Ounsted M, Moar VA and Scott A. Risk factors associated with small for dates and large for dates infants. Br J Obstet Gynaecol 1985; 9 2 : 226-232.
6. Eidelman AI, Kamar R, Schimmel MS and Baron E. The grandmultipara: is she still a risk? Am J Obstet Gynecol 1988; 158: 389-392.
7. Babinszki A, Kerényi T, Torok O, Grazi V, Lapinski RH and Berkowitz RL. Perinatal outcome in grand and great-grand multiparity: Effects of parity on obstetric risk factors. Am J Obstet Gynecol 1999; 181: 669-674.
8. Bai JB, Wong FWS, Bauman A and Mohsin M. Parity and pregnancy outcomes. Am J Obstet Gynecol 2002; 186: 274-278.
9. Bugg GJ, Atwal GS and Maresh M. Grandmultiparae in a modern setting. Br J Obstet Gynaecol 2002; 109: 249-253
10. Rooney C. Antenatal care and maternal health: how effective is it? A review of the evidence. World Health Organization, Geneva, MSM/92.4, 1992.
11. James DK, Steer PJ, Weiner CP and Gonik B (Eds.). High-Risk Pregnancy. Management options. WB Saunders Co Ltd., 1997, pp 40-42.
12. Vahratian A, Hoffman MK, Troendle JF, et al; The impact of parity on course of labor in a contemporary population.; Birth. 2006 Mar;33(1):12-7.
13. Badolah Y et al. Relationship between nulliparity and preeclampsia may be explained by altered circulating soluble fms-like tyrosine kinase 1. Hypertens Pregnancy. 2014 May;33(2):250-9. doi: 10.3109/10641955.2013.858745. Epub 2013 Dec 4
14. Rurangirwa AA¹, Gaillard R, Steegers EA, Hofman A, Jaddoe VW. Hemodynamic adaptations in different trimesters among nulliparous and multiparous pregnant women; the Generation R study. Am J Hypertens. 2012 Aug;25(8):892-9. doi: 10.1038/ajh.2012.57. Epub 2012 May 31