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WOMEN WITH PREGNANCY INDUCED HYPERTENSION; EPIDEMIOLOGICAL DIFFERENCES BETWEEN NORMOTENSIVE PREGNANT WOMEN

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ABSTRACT... noreenakmal@hotmail.com **Objective:** To identify the epidemiological differences between normotensive pregnant women and women in pregnancy induced hypertension. **Designs:** A descriptive analytical case control study. **Setting:** Department of Obs and Gynae of Sir Ganga Ram Hospital Lahore. **Period:** From January to December 2004. **Materials & Methods:** 2 groups with 100 patients in each were studied. **Results:** PIH is more common in young, obese, primigravidas with a family or past history of PIH or hypertension and in those with poor socioeconomic status and no regular dietary calcium supplementation.

Key words: Epidemiology of PIH, Pregnancy induced hypertension, Risk factors for PIH.

INTRODUCTION

Pregnancy is a state which can induced hypertension in a normotensive women. By definition pregnancy induced hypertension (PIH) is a condition occurring after 20th week of pregnancy in a previously normotensive patient. Generally PIH is defined by systolic blood pressure \geq 140mmHg or diastolic blood pressure \geq 90mmHg 4 hours or more apart intervals¹. However a rise in systolic blood pressure of 20-30mmHg or 10-15mmHg of diastolic blood pressure or both from pre pregnant baseline value on two or more occasions four hours or more apart is also diagnostic². Once PIH is associated with proteinuria there is increased risk of developing eclampsia . PIH usually disappears after 6 weeks of delivery³.

PIH is often referred as the disease of theories. Different theories have been made such as impaired trophoblastic

invasion of spiral arterioles, uterine vascular changes, endothelial dysfunction, circulating oxidative radicles and cytokines disturbances etc.

In addition to these theories certain predisposing factors are noted among them younger age, primiparity, genetic predisposition, lower socioeconomic status and dietary deficiencies especially the calcium deficiency are the important ones.

In order to observe these epidemiological differences in pregnant normotensive and hypertensive women of our population an observational analytical case control study was designed.

PATIENTS AND METHODS

Two hundred patients were selected from department of

obstetrics and Gynaecology, Sir Ganga Ram Hospital. Two groups of hundred patients each were made. Group 1 included hundred pregnant women with normal blood pressure and gestational age (30-40 weeks).

Group 2 included patients with diastolic blood pressure \geq 100 mm Hg and gestational age (30–40 weeks). All pregnant patients with hypertension due to reasons other than PIH were excluded from study. All patients were subjected to a questionnaire including age, parity, gestational age, Family history, monthly income dietary calcium intake and supplementary calcium intake.

Clinical examination included general physical examination and obstetric examination. Data was analyzed by using SPSS version 10. Descriptive statistics were computed for data presentation. To compare qualitative response variables Pearson's chi square test was applied statistical significance was taken at $p < 0.05$.

RESULTS

During study period following observations were noted. Age of patients in group I was below 20 years in 45% patients while 66% patients in group II were below 20 years. Demographic characteristics in groups are presented in table.

PIH was more common in young (66%), primigravidas (62%) and in those who belong to low socio-economic class (75%) and did not take regular dietary and calcium supplementation (70%).

DISCUSSION

Pregnancy induced hypertension is the hypertension developing after 20th week of pregnancy in a previously normotensive woman. Study showed that PIH was more frequently found in primigravida & similar facts were observed by Robiland & Husley in 1996. This study also showed that PIH usually develops in younger females & this may be associated with primiparity⁴.

This observational study also reveal the fact that 20 % of PIH group had more than 100 kg weight, which is a risk factor for development of hypertension as mentioned by other workers³. Family history and past history of PIH was

present more prominently in group II patients revealing the fact that genetically predisposed patients do develop PIH, as mentioned by other workers¹.

Table-Demographic Characters of Patients			
Parameter	Group I	Group II	P Value
Age			
< 20 years	45%	66%	
> 20 years	55%	34%	$p < 0.01$
Parity			
Primigravida	45%	62%	
Multigravida	52%	38%	$p < 0.01$
Weight >100kg	10%	20%	
Socioeconomic status			
Poor	28%	75%	
Middle class	60%	25%	$p < 0.001$
High class	12%	0	
Dietary & supplementary calcium intake			
Regular	60%	30%	
Irregular	40%	70%	$p < 0.001$
Past history of PIH	3%	10%	
Family history PIH/hypertension	6%	20%	

Socioeconomic comparison of two groups showed that 75% of group II patients belonged to poor socioeconomic group. Regular dietary and supplementary calcium & vitamin intake was only in 30% group II patients. This observation point to the fact that deficiencies of calcium & vitamins during pregnancy can predispose to development of PIH. People of poor socioeconomic group can not take regular dietary as well as supplementary calcium and vitamins so they are more prone to PIH⁵.

CONCLUSION

Study concluded that PIH is a disease that affects the

younger age primigravidas & specially those who are obese & have family history of hypertension or PIH. It also recurs in high risk obese patients in their successive pregnancies. There is a greater chance of PIH in patients belonging to poor socioeconomic group and not taking regular dietary and supplementary calcium & vitamins.

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