ORIGINAL ARTICLE

Fetal Outcome in Gestational Aproteinuric Hypertension VS Gestational Proteinuric Hypertension

RUBINA SHAMSI, SHAHEEN BANO
Department of Gynae/Obs, Services Hosp, Department of Gynae/Obs, Mumtaz Bakhtwar Hospital, Lahore

ABSTRACT

Hypertensive disorders of pregnancy are responsible for a significant proportion of maternal and prenatal morbidity and mortality. About 7-10 percent of all pregnancies are complicated by hypertensive disorders. Out of these about 5-15% cases are complicated by proteinuria which further increases the maternal and fetal risks.

A prospective study was carried out from sept 1996 to feb 2010 at jinnah hosp. Services hosp ch. Rehmat ali teaching hosp lahore and mumtaz bakhtawar hosp. Lahore.total no of patients included in this study was 314.they were divided into two groups.in group a patients with gestational hypertension without proteinuria were included and their no was 194.in group b there were 120 patients diagnosed to have gestational hypertension with proteinuria.the purpose of this study was to estimate and compare the fetal outcome in these two groups.

METHODS AND MATERIALS

The total no of patients include in this study were 314. All the booked as well as unbooked patients were include in this study. The patients were booked in the first trimester of pregnancy and unbooked patients were admitted through accident and emergency department.these patients were divided into two groups. Group a included all the patients with aproteinuric gestational hypertension which develops after 20 weeks gestation in a previously normotensive woman. There were 194 patients in this group. Group b patients were those with proteinuric gestational hypertension which develops after 20 weeks in a previously normotensive woman.

The patients who were exclude from the study were those with chronic hypertension before 20 weeks of gestation, those with hypertension and other complications of pregnancy like diabetes mellitus,multiple pregnancies, suspected renal disease and urinary tract infection.

A detailed history was taken including profile of the patient, age, parity, duration of pregnancy, obstetric history, past history of hypertension and pih, family history of hypertension and risk factors for pih like socio economic status, dietary habits and drug history. A thorough clinical examination was carried out which include general physical examination with careful record of blood pressure,edema and pallor. A detailed systemic examination was performed. Fundal height, uterine tenderness, fetal position and presentation and fetal heart sounds were recorded carefully. The patients included in this study were those who were found hypertensive on two consecutive recordings of diastlic bp equal or greater than 90 mm of hg 4 hours apart or diastolic blood pressure equal or greater than 11 mm of hg on a single occasion. Proteinuria was considered to be present if equal to or greater than.3 grams per litre or equal to or greater than 2+ with a dipstick on a random sample in the absence of uti. At booking thorough investigations were carried out which were cbc, urine complete examinatination, random blood sugar, blood group and rh factor,viral hepatitis markers and early dating ultrasound scan. Once the diagnosis of gestational hypertension was made a daily check for proteinuria, 24 hour urinary proteins,weekly serum creatinine,uric acid and platelet count and fortnightly ultrasound was carried out. In case of suspicion of development of complications of the disease lfts,rfts and coagulation profile were done and repeated on weekly basis.

DISCUSSION

Hypertensive disorders are an important cause of morbidity not only for general population but also for obstetric patients. The international society for the study of hypertension (isshp) classifies gestational hypertension into 4 main groups.

A; gestational hypertension and/or proteinuria developing during pregnancy, labour or the puerperium in a previously normotensive non proteinuric woman.

i. Gestational hypertension (without proteinuria)

ii. Gestational proteinuria(without hypertension)
iii. Gestational protenuric hypertension(pre-eclampsia)

B; chronic hypertension(before 20 weeks of pregnancy) and chronic renal disease (proteinuria before 20 weeks of pregnancy
i. Chronic hypertension(without proteinuria)
ii. Chronic renal disease (proteinuria with or without hypertension)
iii. Chronic hypertension with superimposed pre-eclampsia

C; unclassified hypertension and/or proteinuria
D; eclampsia

Gestational hypertension with proteinuria indicates a multisystem disease.this is associated with increased morbidity and motality to mother and child.high bp maybe the first sign of pre-eclampsia. Therefore it needs frequent monitoring,evaluation and management to achieve a favourable obstetric outcome.thi s study

Is an attempt to relate pre-eclampsia to the clinical severity and outcome of pregnancy. The study also indicates that proteinuria is an independent prognostic factor in pre eclamptic patients. It is also a marker of more severely affected fetus as it is judged by higher intervention rates and low birth weight. However the severity of fetal involvement is not reflected by or related to the time of diagnosis, degree of hypertension or the level of plasma urate and serum creatinine.the perinatal mortality was found to be significantly high when proteinuria complicates the picture. The vascular damage in pre-eclampsia could be responsible for the plasma protein escape either in the interstitial space or in the urine.this protein loss results in reduced colloid osmotic pressure and consequent iugr. Proteinuria could be considered both as a late clinical marker of the vascular damage and a negative factor for fetal outcome in hypertensive pregnancies.it is known that pre-eclampsia is fundamentally related to poor trophoblast invasion in the myometrium. This leads to reduced normal physiological vasodilatation of maternal spiral arteries resulting in ischemia and oxidative stress. These patients are at a higher risk of delivering small for gestational age babies. The size at birth is related to future health and these babies are more prone to develop future adult diseases like hypertension and diabetes mellitus.

Our study also emphasises the importance of preventive medicine as part of management. Pre pregnancy counselling and screening of the disease will definitely reduce the complications associated with pre-eclampsia. An organised ante-natal cre and detection of complications lead to early intervention with improved maternal and fetal health and well being.

RESULTS

Hypertensive disorders complicating pregnancy are one of the leading causes of admissions in obstetric wards.the total no. Of patients included in the study was 314.these were divided into two groups. In group a (aproteinuric gestational hypertension) there were 194 patients. In group b (proteinuric gestational hypertension) there were 120 patients.the mean maternal age was the same in both the groups and it was 20 -25 years.interestingly most of the patients in both the groups belonged to the lower socio –economic class,probably reflecting the role of diet and environmental factors. The highest systolic and diastolic bp before management was also found to be similar in both groups (table 1).

Table 1: Pb in pih

Bp mm hg	Group a	% age	Group b	% age
130/90	88	45.4%	58	48.3%
140/100	36	37.2%	38	31.7%
150/110 & above	34	17.5%	24	20%
Total	194		120	

Table 2: Gestation at delivery

Gestation at delivery weeks	Group a	% age	Group b	% age
28/34	10	5.1%	8	6.6%
34/37	20	10.3%	30	25%
37 & above	164	84.6%	82	68.4%

Table 3: Fetal out come in pih

	Group a	Group b
Mean birth weight (gm)	N=194 2900	N=120 2000
Mean apgar scane at 1 min at 5 min	 6/10 8/10	 5/10 8/10
Birth asphyxia	12(6.1%)	8(6.6%)

The percetage of pre-term delivery was greater in group b(31.6%) and in group a it was (15.4%-table 2).the no. Of patients selected for induction of labour was not very significantly different in the two groups. In group a induction was done in 46% patients while spontaneous onset of labour was noted in 34%. In group b induction was done in 58% and spontaneous onset of labour was seen in 21%. Rate of cesaean section was found to be higher in group b (48%) as compared to group a (21%). The common indications for lscs in group a were malpresentation,cpd and fetal distress. In group b these were abruptio placenta, impending eclampsia and eclamptic fits at term pregnancy with poor cervical score. In group a fetal outcome was better and mean birth weight was 2.9 kg. In group b this was 2.0 kg.there was no marked difference in apgar score at birth in both groups. Similarly the no of babies born with birth asphyxia was not significantly different. The no. Of babies shifted to nnu in group a were 24 and in group b it was 16. The common indications for transfer to nnu were prematurity,birth asphyxia, meconium aspiration,tachypnea and neonatal jaundice. There were 6 intrauterine deaths,all seen in group b. 4 of these were due to severe placental abruption and in the rest the cause was pre term birth at 30 weeks.there were 11 neonatal deaths. 7 babies were pre term and sga infants,all belonging to group b. 4 babies died due to birth asphyxia,respiratory distress and septicemia,3 of them belonged to group b and 1 to group a.

CONCLUSION

Gestational hypertension is the commonest medical disorder of pregnancy in obstetric practice. Risks to the mother and fetus are further increased when proteinuria complicates the disease.maternal risks are not only due to the progressive nature of the disease and the associated clinical complications but also due to the anti hypertensive treatment and morbidity associated with the mode of delivery. Fetal risks are mainly due to uteroplacental insufficiency resulting in growth retardation, hypoxia and fetal distress.

In severe cases placental abruption and even intra uterine death may occur. Neo-natal complications occur as a result of prematurity,low birth weight and birth asphyxia. Gestational proteinuric hypertension being a progressive disease is not possibly curable untill delivery takes place however early recognition and intervention can prevent the onset of complications to the mother and fetus.

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