ORIGINAL ARTICLE

Maternal Outcomes of Pregnancy Induced Hypertension

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ABSTRACT

Objective: To study the maternal outcomes/ complications of preeclampsia syndrome.

Patients and methods: This cross sectional descriptive study was conducted at Bolan Medical Complex Hospital, for duration of one year lasting from January 2010 to December 2010. The sample size was 102 and the following patients were included in this study: those with clinical and /or laboratory evidence suggestive of preeclampsia, those with preeclampsia superimposed upon chronic hypertension, pregnant women of all ages and parity. The following patients were excluded from this study: those with evidence of chronic hypertension without proteinuria, those with evidence of gestational or transient hypertension without proteinuria, and those with evidence of other connective tissue /autoimmune disorders. Diagnoses of preeclampsia was made on the basis of clinical and laboratory evidence suggestive of the syndrome.

Results: Forty two (41.2%) with preeclampsia were in the age group of 16 to 25 years, 21 women (20.06%) in >25 to <35 years and 39(38.2%) in >35 years. Forty one women (40.2%) were nulliparous and 29(28.4%) were gravid 2 or more. The most frequent gestational age was 36-40 weeks. Twenty patients of blind urethral stricture with age range 20-44 years were treated. There was good result in 14 patients (70%), fair in 4(20%) and in 2 patients (10%) urethroplasty failed. Overall success rate was 90%. 34(33.3%) had their labour induced (preterm) and 18(17.6%) underwent C-section. Out of 102, 10(9.8%) had abruptio placentae, and 14 were found with HELLP syndrome. Maternal mortality was 1.9% as maternal death occurred in two women among the patient population

Conclusion: Pregnancy induced hypertension is still major cause of maternal & infant morbidity and mortality.

Key words: Pregnancy, hypertension, preeclampsia, eclampsia, parity

INTRODUCTION

Hypertensive disorders are most common medical complication of pregnancy and the major causes of maternal and perinatal disease and death worldwide[1]. As maternal deaths have decreased worldwide, increasing attention has been placed on the study of severe obstetric complications, such as hemorrhage, eclampsia, and obstructed labor, to identify where improvements can be made in maternal health[2]. Women with preeclampsia/ eclampsia have a significantly higher risk of MACEs, especially myocardial infarction and stroke, during pregnancy and their risk remains significant to >/=36 months postpartum[3]. The HELLP syndrome and severe preeclampsia may be life threatening to the mother; therefore, the accepted treatment is expeditious delivery[4]. Preeclampsia was the most common cause of ARF followed by puerperal sepsis. In contrast to the developed countries, incidence of ARF is still very high in late pregnancy in the developing countries[5]. Preeclampsia is also the most important cause of peripartum cardiomyopathy is associated with high morbidity and mortality[6]. In Bangladesh both postpartum bleeding and eclampsia were recognized by women of different age groups as severe and life-threatening obstetric complications[7]. Preeclampsia has great implication on adverse neonatal outcome. The various complications seen are low APGAR score, IUD, low birth weight, intrauterine growth restriction and increased need for admission to Neonatal Intensive Care Unit (NICU)[8]. Gestational age, parity, cesarean section rate, the rate of induced labor, and low birth weight neonates were more frequent in preeclamptic women than in healthy pregnant women[9]. Eclampsia is a major cause of maternal and perinatal morbidity and mortality in South East Asia. Wider coverage of pre-natal care, timely referral and optimal management of cases of eclampsia with magnesium sulphate in hospitals are key issues to prevent mortality/morbidity associated with it[10].

PATIENTS AND METHODS

This cross sectional descriptive study was conducted at Bolan Medical Complex Hospital, for duration of one year lasting from January 2010 to December 2010. The sample size was 102 and the following

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patients were included in this study: those with clinical and /or laboratory evidence suggestive of preeclampsia, those with preeclampsia super-imposed upon chronic hypertension, pregnant women of all ages and parity. The following patients were excluded from this study: those with evidence of chronic hypertension without proteinuria, those with evidence of gestational or transient hypertension without proteinuria, and those with evidence of other connective tissue /autoimmune disorders. A detailed history including risk factors for preeclampsia was taken from each patient. All the patients were thoroughly examined with special attention to monitoring of blood pressure and proteinuria. Proteinuria in all patients was determined by spot urine dip stick, or 24-hour urine collection in some patients. Blood samples of each patient were sent to the laboratory for determination of haemoglobin and haematocrit, platelet count, renal function, hepatic function, coagulation profile, serum uric acid and lactic dehydrogenase. Diagnoses of preeclampsia was made on the basis of clinical and laboratory evidence suggestive of the syndrome. All relevant data and outcome parameters were collected on a specially designed study proforma. An informed consent was taken from all the patients or their attendants where appropriate for inclusion in the study. Data analysis was performed using SPSS version 10. Descriptive statistics like frequency, percentage and proportion etc. were computed for presentation of relevant parameters. No inferential statistics and p value was calculated, since this was a descriptive study.

RESULTS

One hundred and two women met the criteria and were included in the study. 42 (41.2%) with pre eclampsia were in the age group of 16 to 25 years, 21 women (20.06%) in >25 to <35 years and 39 women (38.2%) in > 35 years, therefore the mode of age presentation of preeclamptic women was both 16 to 25 and > 35 years. Forty one women (40.2%) were nulliparous and 29 women (28.4%) were gravid 2 or more. The most frequent gestational age was 36-40 weeks. Among 102 women with preeclampsia, 19 women (18.6%) had a history of preeclampsia. 14 women (13.7%) had a history of chronic hypertension before pregnancy, of whom ten were receiving antihypertensive medication during pregnancy. Nine women (8.8%) had history of type II diabetes mellitus, of whom seven were receiving oral antidiabetic therapy, and none had insulin dependent diabetes mellitus.

Once the diagnosis of sever preeclampsia was made based on clinical and /or laboratory criteria, 34 women (33.3%) had their labour induced (preterm), and 18 women (17.6%) underwent caesarean section. Out of 102 women, 10 women (9.8%) had abruptio placentae, and 14 women were found with HELLP syndrome. However only 6 women (5.8%) had acute renal insufficiency, and 11 women (10.8%) developed eclampsia. Maternal mortality was 1.9% as maternal death occurred in two women among the patient population. Both maternal deaths occurred in preeclamptic patients who developed eclampsia.

DISCUSSION

In our study almost half of the women were below 25 years, which is a risk factor for preeclampsia. In one Iranian study Maternal age of more than 20 years, high educational status of mother, parity more than one, and oral contraceptive pills were protective for pre-eclampsia[11], while risk factors for pre-eclampsia were: UTI, history of preeclampsia during previous pregnancy , and winter season. The younger the age the more likely the higher frequency of low birth weight, this was shown by workers in Saudia.[12] Also in India it was shown where it was found that eeclampsia and preeclampsia affected teenage mothers (10.6%) were much more frequent than mothers of 20 years of age and above (5.2%) and incidence of 30% low birth weight baby, 20.1% prematurity and 16.4% perinatal mortality were recorded[12,13]. In a Thai study being overweight and obesity could increase risk in cesarean section, pre-eclampsia, DM, PPH and severe PPH, but were protective factors of LBW[14]. High BMI in pregnant women serves as a significant risk factor for developing hypertension in pregnancy by Pakistani workers in Karachi[15]. It has been found that Consanguinity in terms of first cousin once removed seems to be associated with preeclampsia after controlling for maternal age and family history of pre-eclampsia[16] and this consanguinity is very common in our culture.

In our study almost half of the women were nulliparous, and this has been universally found to be a significant risk factor. In a Central Asian study it was concluded that maternal obesity is associated with increased risks of both maternal and neonatal complications, and that such risks increase with advanced age and parity of the mother[17].

Delivery remains the definitive treatment of pregnancies that are complicated by preeclampsia. Cesarean delivery is more likely in women with preeclampsia[18]. It is to be remembered that delivery is the long-term cure, but most women get worse after delivery and most maternal deaths occur postpartum[19]. Moreover American workers have found that immediate cesarean delivery confers no

benefit to patients with severe preeclampsia.[20] It has been recommended that women with pregnancy hypertension must be carefully managed by expert physicians, particularly if they are more than 30-35 years old, overweight, with previous history of hypertension or nulliparous, in order to decrease these several complications[21] In our study almost 10% of women had abruptio placentae. Mothers with gestational hypertension or pre-eclampsia, smokers and unmarried mothers seemed to run a more than two-fold risk of premature separation of the placenta.[22] In our study the proportion of HELLP syndrome was quite high, this syndrome HELLP syndrome in early pregnancy may indicate the presence of aPL antibodies. It may also be a clinical symptom of APS. A surge in blood pressure is a clinical forerunner of the coming HELLP syndrome. HELLP syndrome in women with APS is characterized by low level of platelets[23]. The mortality in our study was around 2% while it was quite high in other international studies[24].

CONCLUSION

Pregnancy induced hypertension is still the major cause of maternal and infant morbidity and mortality

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