Original Article

Management and outcome of severe pre-eclampsia

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ABSTRACT

Objectives: To know how frequent this problem is encountered in our hospitals and to evaluate fetomaternal outcome by adopting a specific management protocol.

Design: This was a prospective observational study.

Setting: The study was carried out in Labour Ward of Gyneacology and Obstetrics Units-II, Punjab Medical College, D.H.Q. Hospital Faisalabad from 1st January 2000 to 31st December 2000.

Material & Method: Forty one pregnant women diagnosed as having severe pre-eclampsia were managed according to severity of disease and duration of pregnancy. After 34 weeks stabilization and delivery, in patients presenting before 26 weeks termination of pregnancy and for those between 26 to 34 weeks expectant management was done, using antihypertensives to control blood pressure, corticosteroids for fetal lung maturity and serial fetomaternal evaluation.

Results: Frequency of occurrence of pre-eclampsia was found to be 1.55%. Most patients were between 20-25 (44%) years of age and primigravidas were most afflicted (48.8%). Eclampsia (2%) abruption (32%) acute renal failure (32%) HELLP Syndrome (8%) were the associated maternal complications. Maternal mortality was 4.*% and perinatal morality was 30%.

Conclusions: Severe pre-eclampsia continues to present as one of leading causes of maternal morbidity perinatal and mortality. Improvement of antenatal care, early recognition and prompt intervention can reduce the bad outcome.

Key Words: Severe pre-eclampsia, management, elampsia & PIH.

INTRODUCTION

Pre-eclampsia is a multiorgan disorder associated with significant maternal morbidity and mortality world wide [1]. It is defined as occurrence of hypertension in combination with protein urea developing after 20 weeks gestation in a previously normotensive non proteinuric patient [2]. Pre-eclampsia is classified into mild and severe forms [3,4]. Severe Pre-eclampsia is defined as blood pressure reading of ≥ 170/110 and significant protein urea i.e. 1gm/24hr. it is also defined

Moderate hypertension that is 140/100 and Significant Protein Urea 1gm/24hr and two sign and symptoms of imminent eclampsia like Severe headache, Liver tenderness, Epigastric Pain, Clonus, Pepiloedma, Platelet < 100x106/1, abnormal ALT or AST > 70iv/1 and Hellp Syndrome and thrombocytopenia [5] Incidence of Pre-eclampsia varies between 2 to 5%. The maternal component of the disease is associated with multi system organ involvement including cardiovascular, hematological, renal, hepatic and nervous systems. On the fetal side placental insufficiently, intrauterine growth restriction, abruption and even feta death can occur.

The principle aim of management is early recognition of the disease with increased laboratory and ultrasound surveillance and timely intervention to reduce maternal and or fetal complications [6,7,8]. The only definitive treatment is delivery. With patients presenting at 34 weeks or greater and where there is evidence of fetal lung maturity delivery is preferred [4,8,9] after stabilization for patients presenting before 26 weeks termination of pregnancy is the treatment of choice [10,11,12], as prenatal survival is only 3% at this stage and that too in advanced world. For patients between 26 and 34 weeks expectant management c antenatal steroids for fetal lung maturity, use of antihypertensive to control maternal hypertension and appropriate serial fetomaternal surveillance has been seen to improve outcome without increasing maternal morbidity [12, 13].

MATERIAL AND METHOD

Forty one pregnant women having severe Pre-eclampsia which was diagnosed on the basis of symptoms, signs and lab. Investigations were managed

in anternatal ward or labour ward of Gynae Unit-II, Divisional Headquarter Hospital, Faisalabad.

Fetomaternal evaluation was done by doing blood group and Rh factor, blood and urine complete examination, renal functions tests, liver function tests, clotting profile, obstetric ultrasonography and Doppler wave form studies. Condition of mother was stabilized by controlling blood pressure and correction of abnormalities detected on investigations where possible.

For women at or below 26 weeks termination of pregnancy was advised, whereas for those after 34 weeks, delivery was planned. For pregnancies between 26 to 34 weeks, expectant management with serial fetomaternal monitoring and maternal steroids for induction of fetal lung maturity, use of antihypertensive to control blood pressure, was adopted until a fetomaternal indication for delivery arose. The indications of delivery were progressively worsening hypertension despite use of maximum dose of two antihypertensive agents, progressive symptoms deterioration, oliguria, imminent eclampsia, abruption and fetal distress.

RESULTS

1. Frequency of Severe Pre Eclampsia

It was seen to be 1.5% as depicted in graphs 1.

2. Patient Characteristics

Frequency of disease increased at either ends of maternal age, with highest number of cases between 20 to 25 years (44%) graph 2. the primigravidas and grand multi gravidas were most afflicted, graph 3.

3. Latency Period and Gestational Age

By adopting specific protocol of management, 29% patients were delivered 24 hours after admission, 20% within next 48 to 72 hours whereas in remaining 50% case expectant management was done for up to 10 to 14 days, graph 4.

4. Maternal Outcome

Maternal death occurred in 4.8% cases. Contribution of various factors is detailed in graph 5.

5. Perinatal Outcome

Perinatal deaths occurred in 30% cases as shown in graph 6, prematurity it is being the leading cause (85%), (graph-6).

DISCUSSION

Severe Pre-eclampsia has a major contribution to maternal morbidity and mortality in the third world countries [6,7]. The frequency of occurrence of this disorder in the present study was 1.55% which is higher than in U.K., U.S.A. and France i.e. 0.5 to 1% [3,4,14,15].

Regarding predisposing factors severe Pre-eclampsia is more prevalent in uneducated population [16,17] and this was also observed in the present study. 44% cases occurred in young (20 to 25 years) and above 35 years age group. These findings are confirmed in other studies as well [10, 11, 12, 15].

Primigravida were found to be effected more (48.8%). This finding has also been observed by Sibai [12] and Long and Oat [18].

Previous history of hypertension, pregnancy induced hypertension, Pre-eclampsia and eclampsia was found in 10% patients and this has been observed also in a study by Campbell DM and Macgillarvy [19].

The present study showed that in 10% cases of severe Pre-eclampsia, there was family history of hypertension, Chesley and Cooper in their study have observed pre-eclampsia and eclampsia to be highly heritable [13].

Kilpatrick [2], gives HLA-DR association with pre-eclampsia. Hence pre-eclampsia is a multi-factorial syndrome and its incidence is related to parity, racial, genetic and environmental factors.

In the present study 8(19.5%) cases were of less than 27 weeks gestation and termination of pregnancy was adopted as perinatal survival at or below this gestation is low [21,22] and meaningful prolongation of pregnancy to improve this outcome is not possible as it compromises maternal well-being.

Seven cases (17.07%) presented at or beyond 34 weeks and they were delivered within 48 to 72 hours after giving steroids to induce fetal lung maturity. In this group of patients, perinated survival was nearly 100% as is also seen world over.

Expectant management was adopted in the remaining 26 patients presenting between 27 to 34 weeks for up to 7 to 10 days with intensive fetomaternal surveillance. Perinatal survival for this group was 80%. Studies by Odendal et al [23] and Sibai [24] on severe pre-eclampsia between 28 to 34 weeks using expectant management found statistically significant prolongation of gestational age, and reduction in neonatal ventilation and neonatal complication with no increase in maternal mortality.

The maternal mortality of present study was 4.8%. It is quite high as compared to developed countries [2,4,14]. Lack of antenatal care and hence early detection of disease lead to development of complications prior to admission and contribute to increased mortality.

Perinatal mortality (P.N.M.) of the present study was 30%. Survival was dependant on gestational age, weight of fetus at birth and severity of maternal condition.

P.N.M. was 100% at or before 28 weeks, survival improved to 80% between 28 to 34 and 100% after 34 weeks. The poor perinatal outcome is explained by high contribution of prematurity (85%).

CONCLUSIONS

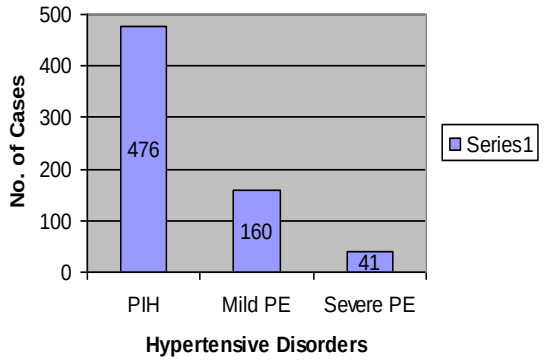
Severe pre-eclampsia continues to present management challenge for clinicians and despite on going research into treatment and care its complications result in significant maternal and fetal morbidity and mortality.

Early recognition and referral to tertiary care center and timely intervention can reduce morbidity and mortality.

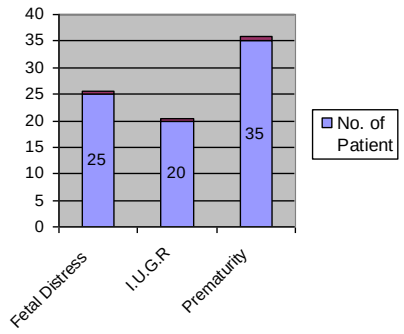
Expectant management adds little to prolongation of gestational age (approx. 10 to 14 days) but still improves perinated outcome without compromising maternal well-being.

Graph-1: Frequency of Severe Pre-Eclampsia

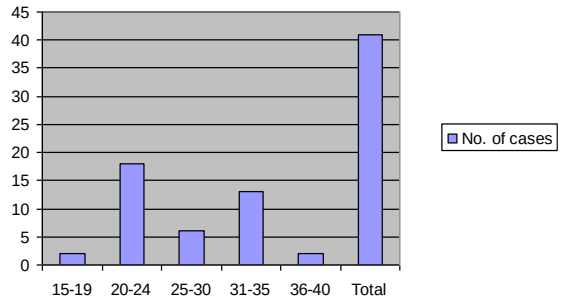
Total Deliveries 2644



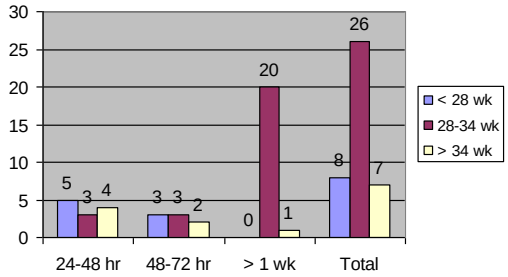
Graph-2: Factors Contributing To Perinatal Morbidity and Mortality



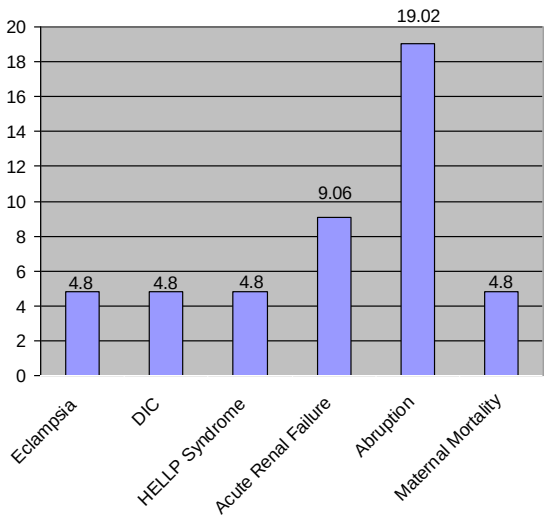
Graph-3: Frequency of Maternal Age and Severe Pre-Eclampsia



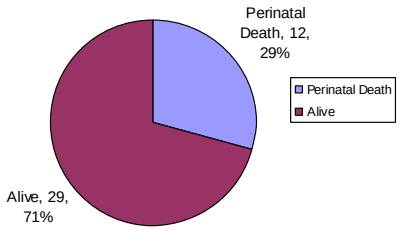
Graph-4: Relationship between Gestational Period and Latency Period



Graph-5: Maternal Morbidity & Mortality in Severe Pre-Eclampsia



Graph-6: Perinatal Outcome



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