Changing Pattern of Eclampsia over a 20-Year Period.

A MALIK K AHMAD I SADIQ W YOUSAF
Department of Obstetrics and Gynaecology. Lady Willingdon Hospital, Lahore
Correspondence to Dr. Aisha Malik, Assitant Professor

This study was conducted to compare eclamptic cases presenting at Lady Willingdon Hospital in 1978 and then in 1998. Out of 7673 patients delivered, 132 cases of eclampsia treated in 1978 were reviewed retrospectively. 9,650 women were delivered in 1998 and 97 cases of eclampsia treated were collected prospectively. It was noted that incidence of eclampsia fell almost 50% from 17/1,000 deliveries in 1978 to 10/ 1,000 deliveries in 1998. There was also a changing trend observed. In 1970's most eclamptic patients were unbooked while recently a lot of patients presenting with eclamptic fits were booked cases under care of general practitioners getting treatment for hypertension. Maternal death from eclampsia occurred in 12.1% of cases in 1978 but fell to 6.1% in 1998. Perinatal mortality rate did not improve much. It was 432.6 / 1,000 cases of eclampsia in 1978 and 330 / 1,000 in 1998.
Key Words: Eclampsia Pregnancy Complications Pregnancy Toxemias.

Childbirth currently is the leading cause of death among females of reproductive age in Pakistan. 25% of all deaths in females between ages 15-49 years are maternal deaths.

Eclampsia in one of the major causes. The pathophysiology of this disease process remains poorly understood. Pre-eclampsia is associated with extensive endothelial-cell damage and platelet activation, resulting in lower production of vasodilator prostaglandins and increased release of the vasoconstrictors thromboxane A2 and serotonin. There is no reliable predictive test and no effective prophylactic therapy for this disease. Both problems will only be solved by further unraveling of the complex pathophysiology of pre-eclampsia.

Studies show that second-trimester mean arterial pressure affects pre-eclampsia risk. Prior miscarriage and early gestation at presentation were associated with poor fetomaternal outcome.

This study was carried out to determine changes in incidence, presentation, management and fetomaternal outcome of eclampsia at Lady Willingdon Hospital over the past 20 years.

Study Methods

This was a comparative study conducted at Lady Willingdon Hospital. It is a teaching hospital affiliated with King Edward Medical College, Lahore. It has a catchments population of 6.5 million from the city as well as neighbouring rural area. It is one of the oldest & largest women's hospital in the sub-continent. Majority of patients belong to lower socioeconomic group.

A comparison of eclamptic cases presenting at Lady Willingdon Hospital in 1978 and then in 1998 was carried out. Out of 7673 patients delivered, 132 cases of eclampsia treated in 1978 were reviewed retrospectively. 9,650 women were delivered in 1998 and 97 cases of eclampsia treated were collected prospectively.

Inclusion Criteria

Eclamptic group: Blood pressure > 160 / 100 am Hg.
Edema- Positive
Proteinuria ≥ 5 g / 24 hours.
Convulsions/ coma present.

Exclusion Criteria

a) Gestation period of less then 28 weeks.
b) Convulsion due to any other underlying medical disorder.

The cases collected were compared in terms of incidence, mode of presentation, management and fetomaternal outcome.

Results

Comparing the two study periods, the incidence of eclampsia fell from 17 / 1,000 deliveries in 1978 to 10 / 1,000 deliveries in 1998.

However there has been an interesting change in pattern of the disease. Majority (more than 80%) of eclamptic patients seen in 1970's were unbooked patients, who presented in emergency for the first time with uncontrolled hypertension and eclamptic fit. Recently, increase in cases of eclampsia has been observed in booked patients. 37.9% of eclamptic patients were under care of general practitioners getting treatment for hypertension, while 62.1% were non-booked.

Management protocol has undergone change. Previously standard treatment for all cases of eclampsia consisted of lytic cocktail given intravenously as anticonvulsant.

Methyldopa infusion was given to control blood pressure. There drugs have now been replaced by diazepam intravenously to control convulsions and addition of nifedipine sub-lingually to methyldopa infusion to lower diastolic blood pressure when it exceeds 105mm Hg. Delivery is initiated as soon as patient is clinically stable.

Maternal death from eclampsia occurred in 12.1% of cases in 1978 but fell to 6.1% in 1998.

Perinatal outcome has not shown significant improvement. Perinatal mortality was 432.6 / 1,000 cases of eclampsia in 1978 and 330/1,000 in 1998. The results have been depicted in Table 1.

Table Comparison of incidence, mode of presentation and fetomaternal outcome in eclamptic patients in two study groups.

Group	Time Period	Total Deliveries	Eclamptic Cases	Made Booked	Presentation Non-booked	Maternal Deaths	Perinatal Deaths
A	1978	7,673	132 (17/1000)	26 (20%)	106 (80%)	16 (12/1000)	57 (432.6/1000)
B	1998	9,650	97 (10/1000)	39 (37.9%)	58 (62.1%)	6 (61/1000)	32 (330/1000)

Discussion

A significant reduction in incidence of eclampsia reflects improvement in standard of antenatal care. However, an interesting observation is that in the early 80's most of such cases were unbooked patients.

In the late 90's overall incidence of eclampsia in less but there is increasing number of patients who have been receiving antenatal care, diagnosed to have gestational hypertension and taking antihypertensives. They have presented with eclamptic fit at relatively lower blood pressure. This seems to suggest that erratic, unsupervised use of antihypertensives can actually act as a risk factor in precipitation of eclampsia. The underlying disease process associated with severe pre-eclampsia continues an the masking effect of antihypertensives therapy leads the patient as well as the physician into false sense of security.

Studies suggest that there is no clear evidence that any of the antihypertensives drugs available can defer or prevent the occurrence of protein uric pre-eclampsia or associated problems such as fetal growth retardation or perinatal death.

The reduction in maternal mortality may be attributed to improved nursing care, resuscitation facilities and later management protocol for control of hypertension & eclamptic fits. Authors feel that at tertiary referral centers early caesarean section in eclampsia may also help in reducing maternal mortality.

Perinatal mortality associated with eclampsia remains disappointingly high. Lack of proper equipment special care baby units in our tertiary centers may be responsible for this

Conclusion

It is concluded from this comparative study that rising incidence of eclampsia in booked cases at relatively low blood pressure in because of liberal use of antihypertensives and diuretics by general practitioners. This factor needs to be looked into and maternal care improved by initiating antihypertensive therapy after careful evaluation of the risk factors. All such patients should be followed by meticulous monitoring in a well-organized maternity health care system where high maternal compliance is necessary together with use of appropriate methods to predict progression of disease so that intervention can be planned before eclampsia with all its associated complications sets in.

References

1. Repke-JT; Robinson-JN. The prevention and management of pre-eclampsia and eclampsia. Int-J- Gynaccol-Obstet. 1998 July; 62 (1): 1-9.
2. Steyn-Dw; Odendaal-HJ. Randomised controlled trial of Reanserin and aspirin in prevention of pre-eclampsia. Lancet. 1997 Nov. 1; 350 (9087); 1367-71.
3. Saudan-P; Brown-MA; Buddle-ML; Jones-M. Does gestational hypertension become pre-eclampsia? Br-J-Obstet- Gynaecol. 1998 Nov; 105 (ii) : 1177-84.
4. Caritis-S; Sonao-B; Hauth-J; Lind heimer-M; Van Dorsten-P; Predictors of pre-eclampsia in women at high risk. Am-J- Obstet-Gynecol.1998 Oct; 179 (4); 946-51.
5. Leitch-CR; Cameron-AD; Walker-JJ. The changing pattern of eclampsia over a 60-year period. Br-J-Obstet-Gynecol-Secand-Suppl. 1997 Aug; 104(8): 917-22.
6. Montan-S. Medical prevention of pre-eclampsia. Acta-Obstet-Gynecol-Secand-Suppl. 1997; 164 : 111-5.
7. Arora-R; Swain-S; Agrawal-A; Habeebullah-S. J-Indian-Med-Assoc. 1997 Apr; 95 (4): 103-4,106.