Analysis of 100 Cases of Obstetric Emergencies Needing Critical Care in Referral Centres like Steel Plant Hospitals

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Summary

This report deals with the random analysis of hundred cases of Obstetric emergencies out of a total of 3865 admissions to Obstetric Ward, who needed critical care and were treated in ICU, Eclampsia Room, as well as in Labour Room of a tertiary industrial hospital during the period from April, 1997 to March, 1998.

Out of 100, 78 were pure Obstetric cases, 20 medical disorders and 2 with surgical disorders. Inspite of our critical care, maternal mortality was 12% which shows high maternal mortality as 80% were unbooked and who came in terminal stage as referral patient. Foetal death occurred in 7.

Introduction

Health profile of the women mirrors the state of any nation. Repeated pregnancies, extreme poverty, total illiteracy, complete neglect result in the shocklingly high maternal mortality rate. Proper political strategies, population control, literacy drive, health education in reduction of maternal mortality cannot be neglected. Contribution of tertiary referral hospital, Critical Care Centre, sophisticated equipments in maternal welfare and lowering maternal mortality rate cannot be under estimated. Pregnancy and delivery increases the risk of development of life threatening conditions. Success of management of these critical illness in pregnancy requires co ordinated consistent working of the Intensive Care Team with Obstetrician, Neonatalogist, Anaesthetist and Physician.

Material and Methods

Present study was conducted at Jawaharlal Nehru Hospital and Research Centre. Randomly One hundred cases were selected in one year, during which total admissions were 3865. Of this, seventy eight were pure obstetrical cases comprising Eclampsia 38, ruptured ectopic 12, Septic abortion 8, PPH 5, Accidental Haemorrhage 7 and Uterine rupture 8. Of the remaining Twenty two cases, 20 were pregnancy associated with medical disorders and 2 were of surgical disorders. Of the twenty cases of associated medical disorders, 5 were of anaemia, 3 of cerebral haemorrhage, 7 of pregnancy with jaundice and 5 of multi-organ failure. In case of associated surgical disorders, each one was of pregnancy with appendicitis and pregnancy with pancreatitis. Majority of them belonged to 20-29 years and one to third para (as shown in chart No. I).

Basic investigations like complete haemogram, blood grouping and Rh typing, blood for sickling, routine and microscopic examination of urine done in all cases. Fundoscopy in all cases of toxaemia, peripheral smear for malarial parasite in suspected cases of malaria.

Table I
Distribution of Patients, according to age and parity

According to Age	Below 20	21-30	31-35	Above 35
	5	79	12	4
According to Parity	Primigra	2 to 3	4 and above	
	44	47	9	

Biochemical investigations like Blood urea, blood sugar, serum electrolytes, liver function tests coagulation profile done in all cases of toxaemia and jaundice. Microbiological examinations like urine, blood and HVS cultures were done in septicaemic conditions. Chest X-ray, abdominal X-ray, Sonography, Computer tomography and dopplar done as and when required. Special procedures like peritoneal dialysis, haemodialysis done in renal failure cases.

Observation and Results:

Retrospective analysis; out of 38 Eclampsia cases, 32 were antepartum, one intercurrent and 5 of postpartum. Details of treatment regime and out come is shown in Table No. II. With timely critical care and surgical intervention, maternal mortality was minimised to a great extent in our series. However, it is observed that postpartum eclampsia has got a bad prognosis.

Out of 8 uterine rupture, all patients were given timely critical care and needed surgery. There was no maternal mortality in our series as shown in Table III.

Of the three cerebral haemorrhage cases, there was one each of Berry's aneurism rupture, pontine haemorrhage and malignant hypertension, details of which are shown in Table No. IV. In spite of critical care, we could not save any patient in this group as they came in terminal stages.

Table II
Analysis of Eclampsia Cases No.: 38

No.	Group	Number of cases	Mode of Delivery	Treatment Regime	Out Come of Mother	Out Come of Foetus
1.	Antepartum	32	N D – 24 LSCS – 8	A : 26 B : 6	32H	32 H
2.	Inter Current	1	N D	B	H	F D
3.	Post partum	5	N D – 5	A – 5	H 2 M D – 3	5 H

A : Treatment Regime – Calmpose, Eptoin and Phenargan; H : Healthy
B : Mag. Sulph; N D : Normal Delivery; F D : Foetal Death; MD : Maternal Death

Table III
Analysis of Uterine Rupture Cases No. 8

S.No.	Cause	Mode of Delivery	Outcome of mother	Outcome of foetus
1.	LSCS scar (5) Dehiscence	Abdominal	Survived	Alive (5)
2.	Grand Multipara came with rupture(2)	Abdominal Hyst (1) Abd. Hyst + Int. Iiiac Artery Ligation (1)	Survived	Alive (1) S B (1)
3.	Obst. Labour with Urinary bladder rupture (1)	Abdominal Hyst with Bladder repair	Survived	SB

Table IV
Analysis of cerebral haemorrhage cases No. 3

S. No.	Age (Years)	Diagnosis	Mode of Delivery	Outcome of mother	Outcome of foetus
1.	22	Berrys Aneurism rupture	Outlet Forceps	Expired	S B
2.	25	Pontine Haemorrhage	Vaginal	Expired	Expired
3.	22	Malignant Hypertension	Vaginal	Expired	S B

Out of 5 cases of multi-organ failure analysed, details are given in table V. Peritoneal dialysis was done in 2 cases with good result. In case of induced septic abortion with renal failure laparoscopic peritoneal lavage and instrumental evaccuation was done. Out of 5 there was one maternal death due to hepatic failure with timely action and sufficient critical care we could save the remaining 4 patients who also came in bad condition.

Our goals of therapy in managing the patient is to keep systolic blood pressure more than 90 mm Hg, urine output more than 25 ml / Hr, arterial Po2 more than 60 mm Hg, to keep normal mental status and treatment of basic cause.

In all patients with shock, a patent intravenous line was established. Circulatory volume was restored by I.V. fluids with the help of either crystalloids or colloids. Where the enormous amount of blood loss was there, like incomplete abortion, ruptured ectopic, placenta previa and uterine rupture, replacement of blood was done. Septicemia may also contribute to haemolysis leading to anaemia requiring blood transfussion. In case of low BP, dopamine was used as a vasopressor agent, which has got a dose related action. Generally started with 2 to 5 µgm. Kg/Mnt. and titrated according to the clinical and haemodynamic response. To start with antibiotics like, cloxaccilin, gentamycin and flagyl were given. After seeing the culture reports, they were replaced with corresponding sensitivity drugs. Broad spectrum antibiotic was started keeping the toxicity in mind where it was necessary. Once the patient was stabilised provisional diagnosis was done by evaluating detailed history, complete examination and required investigations. After this, remedial measures for the basic problems were undertaken.

Discussion

In present study, the maternal mortality is very high i.e. 12% as shown in Table VI. The direct cause were responsible in 8 cases out of which, 3 were eclampsia, 2 each of PPH and Hepatitis and one with septic abortion. Indirect causes were 1, 3 due to cerebral haemorrhage and one due to pancreatitis. Materna mortality in eclampsia varied between 0 to 1.5 (Prichard et al 1984, Porapakkham 1979, Lopez et al 1976, Menon 1961). According to Williams it is from less than 1% to as much as nearly 20% (Cunningham et al 1997). In our study, 3 deaths occurred out of 38 cases i.e. 7.8%. Majority of the patients i.e. 6/8 died within 48 hours of admission due to cerebro-vascular accidents in our series as compared to Mukharjee and Roy Choudhary et al 1995. There were 8 cases of rupture. All were unbooked in our series. One came with Obstructed labour, and 5 with LSCS Scar dehiscence. Menon 1962

Table V
Analysis of Multi Organ Failure No. 5

S. No.	Age (Years)	Diagnosis	Dialysis	Mode of Delivery	Outcome of mother	Outcome of foetus
1.	21	Cerebral Malaria	-	Normal	Survived	Alive
2.	25	Hepato Renal Syndrome	-	Normal	Died	Still Born
3.	28	Post Nephrectomy Renal Failure with C C F	Peritonial Dialysis (1)	Normal	Survived	Alive
4.	22	Pre Eclampsia with HELLP Syndrome	HaemoDialysis (1)	LSCS	Survived	Alive
5.	18	Induced SepticAbortion, Ac. Renal Failure	Haemo-Dialysis (3)	-	Survived	Aborted

Table No. VI
Analysis of causes of Maternal Mortality

S. No.	Clinical Condition	Cause of Death
1.	Eclampsia (3)	Cardio-Resp. Arrest (3)
2.	PPH (2)	DIC (1) Cardio-Resp Arrest (1)
3.	Cerebral Haemorrhage (3)	Vital Centre Failure (3)
4.	Pancreatitis (1)	Cardio-Resp. Failure (1)
5.	Hepatitis (2)	PPH (1) Hepatic Failure (1)
6.	Septic Abortion (1)	Cardio-Resp. Failure (1)

reported 9 cases due to obstructed labour in a series of 164 cases. Sinha and Roy 1986, reported 90.42% spontaneous and 24.49% scar rupture in their series. In our series, diagnosis was made timely and early, with available blood bank facilities, resulting in less morbidity and no mortality.

Conclusion

Our study shows high maternal mortality of 2.7% thousand deliveries, expected by 2000 is 2 per 1000. Preventive steps like A B C D E of prevention in which (A) abortion at safe place (B) Basic health care (C) Contraception (D) Drugs in the form of haematinics and antibiotics (E) Education to create awareness in the public and physicians have to be taken, so that patient can reach the Gynaecologist at an early stage. Maternal death due to toxaemia can be prevented by better antenatal services, early recognition with referral and standard Magnesium Sulphate regime along with ICU facilities. Sepsis which is a preventable disease, should be eliminated by mass health education, making MTP and Family Planning Services accessible to those in need. Legal action against criminal abortion should be strictly enforced. To conclude, when the patients come in serious condition, they could be saved by timely diagnosis and critical care. But in those cases, with irreversible changes even after critical care and sufficient attention it will be difficult to save the patient

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