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Original Article

OUTCOME OF REFERRED OBSTETRIC EMERGENCIES AT A TERTIARY CENTRE

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ABSTRACT

A prospective study of obstetric emergencies referred to Sri Bhagwan Mahaveer Jain Hospital, Bangalore, a tertiary centre over a span of two years (September 2007- August 2009)Material and Methods- The Study of the consecutive obstetric emergencies referred to BMJH during the study period – antepartum> 28 wks , intrapartum emergencies and postpartum emergencies upto 6 weeks were taken as the sample. The Sample size was 120 patients. Analysis of the maternal and perinatal outcome of the sample was carried out. Results- There were 84 antenatal, 12 intrapartum and 24 postpartum cases in the study. One hundred and twelve patients were first referrals (93.33%) . The mean age was 26.7 yrs. Nulliparous women contributed the maximum of referrals (51.67%). Hypertensive disorders constituted the maximum referrals (50%). Mean distance travelled was 17.33 kms. Mean transport time was 58.25 min. Patients were intervened appropriately in referring health care centres before referrals. Nursing homes constituted the maximum health care centres. The General Condition of patients were poor in 36.66% patients and the rest were stable. There were 21.66% ICU admissions. There were two maternal mortality that occurred during study period giving the Maternal Mortality Ratio of 18.86/1000 live birth. Fifty eight patients had morbidity. Maternal morbidity was directly proportionate to the time taken by the doctor to refer, distance travelled and time taken to reach the hospital. Perinatal mortality was 187/1000 live births. Both Perinatal mortality and Perinatal morbidity was directly proportionate to the time taken by doctor to refer and time taken to reach hospital, though not statistically significant. There were two maternal mortality that occurred during study period giving Maternal Mortality Ratio is 18.86/1000 live birth. Conclusions: Timely referral and effective management of patients with obstetric emergencies reduces maternal morbidity and perinatal mortality/ morbidity.

Introduction

The review of maternal and perinatal mortality and morbidity rate is a very sensitive index of the quality of health care system of a country. The maternal mortality ratio is considered a sensitive index of the prevailing health conditions and general socio-economic development of a community (1).

Maternal mortality is unique in showing the largest discrepancy of all the health statistics quoted by the World Health Organisation (WHO), between developed and developing countries. The pregnant women may die of pregnancy related complications in developing and developed countries in the ratio of 1 in 11 and 1 in 5-10,000 respectively.

Despite the upgraded MCH services, over all Maternal mortality and Perinatal mortality rates in India are 254/100,000 live births (2008) and 48.5/1000 live births (2006) respectively. This high rate in our country is attributed to the large rural population (60%) and paucity of health care provision to the rural sectors. The disparity of demand and supply of quality health care and the timely non availability of skilled personnel like obstetrician, anesthetist, OT facility, blood bank facility, lack of transport facilities have all contributed to the maternal and perinatal deaths (2). The deliveries conducted by trained skilled personnel globally are only 43% (3).

The solution to the problem of unsafe child birth is provision of premium maternal health services. The most effective approach to achieve safe motherhood is an active community based accessible health care system and institution of strong referral system (4)

All pregnant women are at risk of developing obstetric emergencies. Most life threatening complications occur during parturition and many of these are unpredictable. These require timely skilled medical and surgical interventions (5).

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Seventy five percent of maternal deaths are of obstetric etiology. These are due to hemorrhage, hypertension, unsafe abortion, sepsis and obstructed labour (6).

Material and Methods

Sri Bhagwan Mahaveer Jain Hospital is a Multispeciality tertiary care centre for high risk obstetric emergencies. Management of High Risk Obstetric Cases is a multidisciplinary approach for pregnancies complicated by disease processes. The referred patient population were mainly from private nursing homes and hospitals. All referred obstetric emergency patients were enrolled in the study. Patients were initially Resuscitated (If needed) followed by shift to ICU/ HDU. Detailed history including reasons for referral and time taken for transfer and details of treatment instituted by referring hospital were taken. Patients were appropriately treated and the maternal and perinatal outcome were analysed. The study population consists 120 patients. Study period- September 2007-August 2009

Results

Out of 120 patients, there were 84 antenatal, 12 intrapartum and 24 postpartum cases in the study. One hundred and twelve patients were first referrals (93.33%) . Only 8 patients (6.67%) were second referrals. Maximum cases were between the age group of 21 to 25 years, constituting 45%. The mean age was 26.7 yrs. Nulliparous women contributed the maximum of referrals (51.67%). Hypertensive disorders constituted the maximum referrals (50%). Minimum distance travelled was 3 Kms and maximum was 165 Kms, mean distance travelled being 17.33 kms. Majority reached by speed conveyance, 96 patients (80%) by ambulance. Majority of patients (66.33%) reached the hospital within 1 hour. Mean transport time was 58.25 min. Patients were intervened appropriately in referring health care centres before referrals. Nursing homes constituted the maximum health care centres. The General Conditions of patients were poor in 36.66% patients and the rest were stable. There were 21.66% were ICU admissions. Obstetric hemorrhage was the predominant commonest indication for ICU admission.

There was two maternal mortality that occurred during study period giving Maternal Mortality Ratio is 18.86/1000 live birth.

Fifty eight patients had morbidity. Majority of patients had puerperal fever (31%) followed by artificial ventilation and persistent hypertension ≥6 wks.

Though VVF is rare in modern obstetrics, one patient had vesico vaginal fistula. She was referred with PPH post LSCS. She was a case of central placenta previa and there was history of bladder injury during caesarean section in referring hospital which was the reason for VVF. The other patient was with obstructed labour. It is difficult to glean the relationship of maternal mortality to distance travelled, time taken by the doctor to refer and time taken to reach the hospital as there was one maternal mortality. Maternal morbidity was direcly proportionate to the time taken by the doctor to refer, distance travelled and time taken to reach the hospital. Perinatal mortality was 187/1000 live births.

Both Perinatal mortality and Perinatal morbidity were directly proportionate to the time taken by doctor to refer and time taken to reach hospital, though not statistically significant. Large sample size is required to prove the significance.

Table 1- Obstetric referrals

Referrals	No of cases	Percentage
Severe Preeclampsia	32	26.66%
Eclampsia	14	11.66%
HELLP	14	11.66%
Abruptio placenta	14	11.66%
Placenta previa	10	8.33%
Deep transverse arrest	10	8.33%
Compound presentation	02	1.66%
PPH with shock	14	11.66%
PPH (secondary)	02	1.66%
Sepsis	04	3.33%
Eclampsia	02	1.66%
DIC	02	1.66%
Total	120	100%

Table-2- Maternal Morbidity

Morbidity	Number of patients	Percentage	95%CI
1.Ventillation	4	6.9	1.91-21.96
2.Ventillation +Febrile	4	6.9	1.91-21.96
3.Ventillation+febrile+pneumothora	2	3.4	0.6-17.2
4.Ventillation +HTN	4	6.9	1.91-21.96
5.Pulmonary oedema	4	6.9	1.91-21.96
6.Wound infection	2	3.4	0.6-17.2
7.Puerperal fever	18	31.0	17.28-49.23
8.PPH	6	10.3	3.58-26.39
9.Persistent Hypertension(>6wks)	12	20.7	9.86-38.39
10.VVF	2	3.4	0.6-17.2
Total	58	100.0	-

Table 3:Perinatal Morbidity

Perinatal Morbidity	No. of cases	Percentage
Ventillation	16	26.67%
Ventillation+sepsis	20	33.33%
Ventillation+Anaemia	8	13.33%
Anaemia	12	20%
ROP	4	6.67%
Total	60	100%

Chart 1: Perinatal mortality

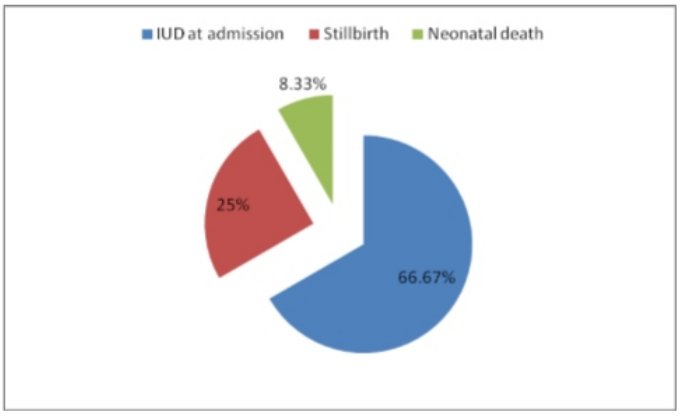

Chart 2: Obstetric causes of perinatal mortality

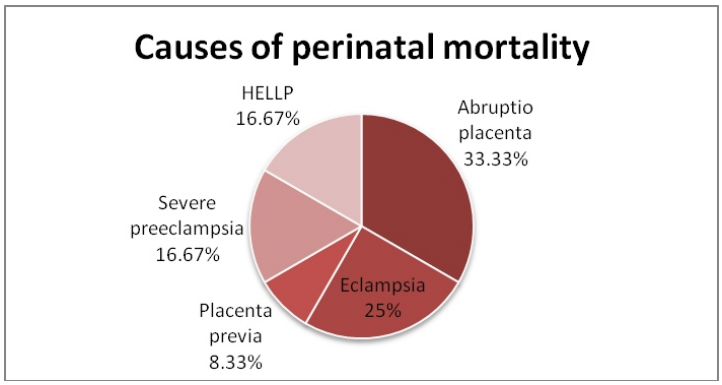

Table 4 : Indications for Referral

Indications for referral	Eugene J Kongnyuy (10)	Strand RT (7)	Present study
Prolonged/obstructed labour (%)	58.1	29.2%	8.33%
Obstetric haemorrhage (%)	11.3	9.3%	33.33%
Puerperal sepsis (%)	6.5	-	3.33%
Preeclampsia/eclampsia (%)	11.3	13.1%	50%

Table 5: Maternal Morbidity

Maternal Morbidity	Shi Wu Wen Etal (12)(95 CI)	Present study (95 CI)
PPH	0.44-0.55	3.58-26.39
Artificial ventilation	1.89-3.23	9.86-38.39
Pulmonary oedema	1.60-2.72	1.91-21.96
Puerperal fever	-	17.28-49.23
Persistent Hypertension(>6 wks)	-	9.86-38.39
Vesico vaginal fistula	-	0.6-17.2

Table 6: Perinatal Mortality

Factors	Das Lucy(12)	Present Study
Antepartum hemorrhage	20.5%	41.66%
Eclampsia	11.9%	25%
Preeclampsia	21.9%	16.67%
HELLP	_	16.67%

DISCUSSION

With one hundred and twenty patients in the study, the mean age was 26.7 yrs. This is similar to the study of Strand RT (7), the mean age here was 24.1 yrs. Most of the cases in our study were treated by Nursing Homes before referral - 64 cases (53.33%). Hospitals had treated 43.33% of cases (52 cases). Referrals from Primary Health Care centers were only 3.33% (4 patients). In a study by Obi SN (8), the major sources of referrals were hospitals/clinics (46%) and maternity homes (23%). ranges from 15 min to 6 hours. Majority of patients (66.33%) reached the hospital within 1 hours. Mean transport time was 58.25 min.Strand RT et al (7) quotes a mean transport time of 36 min (range 15-225 min)

The relationship of time taken to reach the hospital and the maternal mortality could not be evaluated since there was one maternal death. But the duration to reach the hospital had direct effect on the perinatal morbidity, mortality, maternal morbidity.

Babu S. Patel (9) also informs the importance of transportation and communication service to curtail the MMR.

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Perinatal mortality includes both late fetal deaths (IUDs after 28 wks and still births) and early neonatal deaths.

Sixteen referred cases had IUD at admission. There were eight twin gestations in the study. There were 128 births, out of which 24 postpartum mothers had delivered live babies outside. In our hospital, 16 were born dead, 6 were stillbirth and remaining 84 were live birth. There was one neonatal death due to pulmonary hemorrhage. Total Perinatal mortality rate was 187/ 1000 live births. In a study by Das Lucy(13), the perinatal mortality was 70.2/ 1000 live births. The perinatal mortality was 42% in a study by Lompo K (14) et al.

Conclusion

The referring system was good since maximum patients were shifted in well equipped ambulance and the general condition of patients were stable in 63% patients at admission. Timely referral and effective management of patients with obstetric emergencies reduces maternal and perinatal mortality/ morbidity.

BIBILOGRAPHY

1. Bhatia JC. Levels and causes of maternal mortality in southern India. Stud. Fam Plan. 1993 Sep-Oct; 24(5): p310-8.
2. Limaye HR. Maternal and Fetal outcome in obstetric emergency cases, referredFrom rural areas. J of Obst & Gynec in India 1982; 32: p520-429.
3. http://mohfw.nic.in/INDIA%20RCH%20REPORT_Pdf/6.SALIENT%20FINDINGS.pdf
4. Majhi AK, Mondal A, Mukherjee GG. Safe motherhood- along way to Achieve; J Indian Med Assoc. 2001 Mar; 99(3): p132-7.
5. Alokendu Chatterjee, Joydew Mukerjee, Emergency Obstetric Care. J of Obst Gynae India 1998; 48(6): 131-134.
6. Neeru Gupta. Maternal mortality : magnitude, causes and concerns. J of Obst & Gynae 2004; 1X: 9, 555-558
7. Strand RT Audit of referral of obstetric emergencies in Angola: a tool for assessing quality of care Afr J Reprod Health. 2009 Jun;13(2):75-85.
8. Obi SN, Ozumba BC, Okaeo JM. Emergency obstetric referrals at University teaching hospital, Nigeria. East Africa Medical Journal 2001 May.78(5) 262-4.
9. Babu S Patel, Gangopadhyay S, Vaishnat SB, Shrivstava RG, Rajagopalan R. Maternal mortality in Karamsad Medical College, the only rural M.C in Gujrat.J Obst and Gyn of India 2001; 51: 63-66.
10. Eugene J Kongnyuy, Grace Mlava,Nynke van den Broek Criteria-based audit to improve a district referral system in Malawi: A pilot study BMC Health Services Research 2008 8:190 doi:10.1186/1472-6963-8-190

11. Daniel O Selo-Ojeme Æ Monica Omosaiye Parijat Battacharjee Æ Rezan A Kadir Risk factors for obstetric admissions to the intensive care unit in a tertiary hospital: a case-control study Arch Gynecol Obstet (2005) 272: 207–210

12. Shi Wu Wen, Ling Huang, Robert Liston, Maureen Heaman, Tom Baskett, I.D. Rusen, K.S. Joseph, Michael S. Kramer Severe maternal morbidity in Canada, 1991–2001 CMAJ • September 27, 2005; 173 (7).

13. Das Lucy, Satapathy Umakant, Panda Niharika Perinatal mortality in a referral hospital of Orissa –A 10 year review J Obstet Gynecol India : November/December 2005 55(6) Pg 517-520

14. Lompo K, Huntin Y. J., Traore G., Tall F., Guiard- Schmid J.B., Yameogo G, Fabre-Teste B, Morbidity and mortality related to obstetrical referral patients to the hospital of Bobo-Dioulasso, Burkina Faso African journal of reproductive health. April 1998; 2(1):10-19