International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2019; 3(3): 01-04
Received: 01-03-2019
Accepted: 04-04-2019

Dr. Shazi Qureshi
Assoc. Prof. Dept. of Obstetrics & Gynecology, Sri Aurobindo Institute of Medical Sciences & PG Institute, Indore, Madhya Pradesh, India

Correspondence
Dr. Shazi Qureshi
Department of Orthopaedics, Shri. B. M. Patil Medical College, Vijaypur, BLDE University, Karnataka, India

To evaluate maternal & perinatal outcome in cases of severe acute maternal morbidity in a tertiary care hospital

Dr. Shazi Qureshi

DOI: https://doi.org/10.33545/gynae.2019.v3.i3a.01

Abstract
Background: The aim of this study is to evaluate Maternal & Perinatal outcome in cases of Severe Acute Maternal Morbidity.
Result: All the 124 patients of severe acute maternal morbidity required either HDU/ICU admission for intensive/ invasive monitoring. Out of 124 patients, 65(52.4%) patients required operative interventions. 69 (55.64%) patients required the use ionotropes as immediate life saving measure as most of the patients came in hemorrhagic shock. Transfusion of blood and blood products was require in 99 (79.8%) patients.
Hemorrhage was the leading cause of severe acute maternal morbidity in our setting accounting for 62.9% of the cases, followed by hypertensive disorders of pregnancy representing 20.16% of total cases. In the present study 83.5% babies delivered at term and 16.49% were preterm. Preterm induction of labour had to be done in favour of maternal health. In the present study 41.75% of the babies were live and were discharged healthy. 53.8% babies were stillborn and 4.39% were neonatal deaths. Higher incidence of stillborn babies is attributed to the severe morbidity of the mother.
Conclusion: The most common reason of SAMM was Hemorrhage due to ruptured ectopic pregnancy, followed by Hypertensive disorders of pregnancy like eclampsia.
Active management of third stage of labor, easy availability of blood & blood products & timely surgical interventions has helped save lives of the patients suffering from Acute Blood loss & Hemorrhagic shock. SAMM review can be useful surrogate of maternal death analysis in this centre.
SAMM is mostly associated with adverse perinatal Outcome. All these factors could be minimized by initiating a broad debate on healthcare policies, mass education on good antenatal care, introducing preventive measures and improving the training of the health professionals and services providing obstetric care.

Keywords: Maternal, perinatal, SAMM & hemorrhage

Introduction
Despite countless conferences and policy documents, an unacceptably high number of women does not survive childbirth in many low-income countries, particularly in sub-Saharan Africa[1]. Women die at home because of delay in the decision to seek care ('phase-I delay'), or during transport to the appropriate level of health facility ('phase-II delay'). Moreover, even if women make it to the appropriate level of care in time, the often considerable time elapse until onset of correct treatment ('phase-III delay') leads to mortality or serious morbidity[2].
In order to improve obstetric care and reduce delay, critical incident audit and feedback have been recommended by the World Health Organization (WHO) and other institutions[3], Audit can be defined as any summary of clinical performance of health care over a specified period of time, and is commonly used to identify substandard care factors including modifiable behaviors of health professionals. Combined with effective feedback to these professionals and other stakeholders, audit is suggested as a potentially useful strategy to improve health care delivery.
Maternal and Perinatal mortality reviews are currently applied in many institutions around the globe. Audit of severe acute maternal morbidity (SAMM) is increasingly perceived as a useful complementary. However, despite their widespread institutionalization, empirical evidence for benefits of audit and feedback remains limited[4].

Material & Method
A Prospective Study was conducted in the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital & Gandhi Medical College, Bhopal over a Period of 01 year Between March 2014 and March 2015.

Number of Patients

All patients admitted in the Department Of Obstetrics and Gynaecology, Sultania Zanana Hospital, Gandhi Medical College, Bhopal with severe acute maternal morbidity or who suffered from an adverse event of acute severe maternal morbidity after their admission in the hospital during the study duration.

For each case, data was collected on nature of obstetric complication responsible, system involved, factors responsible for causing severe acute maternal morbidity. Major determinant of SAMM and perinatal outcome was analyzed.

Inclusion Criteria

Women who fits into the "Comprehensive criteria" taking into consideration, symptoms and signs of a disease, investigations and management done for various complications were included.

Exclusion Criteria

Cases that died during the study duration.

Results

Table 1: Underlying Disorder / reasons for Severe Acute Maternal Morbidity

Reason for SAMM	Number	Percentage (%)
Hemorrhage	78	62.90
Hypertensive disorders	25	20.16
Labour related disorders	11	8.87
Infections	06	4.83
Medical disorders	05	4.03
Total	124	100

Hemorrhage was the leading cause of severe acute maternal morbidity in our setting accounting for 62.9% of the cases, followed by hypertensive disorders of pregnancy representing 20.16% of total cases.

Table 2: Intervention Undertaken/Mode of Management

Intervention	Number	Percentage (%)
ICU/HDU admission requiring resuscitative (CAB) or cardio respiratory support	124	100
Transfusion of blood and blood products	99	79.80
Use of ionotropes	69	55.64
Antihypertensive Drugs	31	25.00
Anticonvulsant (magnesium sulfate therapy)	25	20.16
Laparotomy with saplingectomy	25	20.16
Uterotonics/ Oxytocics	22	17.70
Intubation	16	12.90
Hysterectomy	15	12.09
Repair of Genital Injuries	11	8.87
Drugs to reduce cerebral edema (Mannitol)	10	8.06
Mechanical Ventillation	08	6.45
Intra-uterine packing	07	5.64
Suction and Evacuation	06	4.83
Reposition of inverted uterus	06	4.83
Phenytoin in Non responders to magnesium sulfate	04	3.22
Need for dialysis	04	3.22
Internal iliac ligation	03	2.41
Manual removal of placenta	03	2.41
Anticoagulant therapy	01	0.80
Repair of bladder, bowel injury	01	0.80
Use of digitalis	01	0.80
Laparotomy with procedures – B lynch	01	0.80
Drainage of rectus sheath hematoma	01	0.80
Management of Ketoacidosis	01	0.80

All the 124 patients of severe acute maternal morbidity required ICU/HDU admission for intensive/invasive monitoring. Out of 124 patients, 65 (52.4%) patients required operative interventions. 69 (55.64%) patients required the use ionotropes as immediate life saving measure as most of the patients came in hemorrhagic shock. Transfusion of blood and blood products was required in 99 (79.8%) patients.

Table 3: Factors Responsible for Delay/Level of Delay in Cases of Severe Acute Maternal Morbidity

System	Example	Number	Percentage (%)
Personal/ Family (Social Economic)	Delay in woman seeking help	92	74.19
	Refusal of treatment	62	50.0
	Refusal of admission in facility	54	43.54
Logistic Problem	Lack of transport	14	11.29
	Multiple referrals	30	24.19
Facilities	Lack of facilities, equipments or consumables	08	6.45
	Lack of blood	12	9.67
Health Personnel problem & their skill	Lack of human resources	10	8.06
	Lack of trained skilled obstetrician specialist/ EmOC trained	12	9.67
	Lack of anaesthesiologist	06	4.83
	Lack of surgeons	01	0.80

	Unfavourable attitude	62	50.0

Hemorrhage was the leading cause of severe acute maternal morbidity in our setting accounting for 62.9% of the cases, followed by hypertensive disorders of pregnancy representing 20.16% of total cases.

Table 4: Organ System Involved

System	Number	Percentage (%)
Genital System	101	81.4
Cardiovascular System	92	74.1
Central Nervous System	20	16.1
Respiratory system	11	8.87
Gastrointestinal system	01	0.80
Urinary system	06	4.80
Hematological system	05	4.03
Hepatobiliary system	05	4.03
Immune system	01	0.80
Endocrinological	01	0.80

Table 5: Pregnancy Outcome in Antenatal Cases

Outcome	Number	Percentage (%)
Delivered	62	96
Undelivered	03	04
Total	65	100

Majority of the patients i.e. 96% were delivered whereas only 4% of the patients were managed conservatively. In many women labor had to be induced so that the cause of the morbidity could be eliminated.

Table 6: Mode of Delivery

Mode	Number	Percentage (%)
Vaginal	33	53.23
Abdominal	29	46.77
Total	62	100

Women who delivered vaginally were 53.23% whereas 46.77% were delivered by abdominal route.

Table 7: Perinatal Outcome

Outcome	Number	Percentage (%)
Term Babies	76	83.51
Preterm Babies	15	16.49

In our study, 16.4% of preterm babies were delivered. Preterm labor induction was done in favor of maternal health.

Outcome	Number	Percentage (%)
Live Birth & discharged	38	41.75
Stillborn	49	53.8
Neonatal Death	04	4.39
Total	91	100

Stillborn babies were 53.8% while 4.39% babies died in the neonatal period. Hypertensive disorders leading to utero-placental insufficiency and acute ante-partum hemorrhage as in placenta previa, abruption placentae and rupture uterus leading sudden acute maternal hypotension and fetal hypoxia are the major reasons behind adverse perinatal outcome.

Multiple system involvement was seen in many patients. In most of the patients 81.4% women genital system was found to be involved in one or the other way. Cardiovascular system was involved in 74.1% of the patients. Women either suffered from acute hemorrhagic shock producing sudden hypotension or there were cardiovascular changes due to poor adaptability in hypertensive disorders of pregnancy.

Table 8: Type of Discharge

Type	Number	Percentage (%)
Hospital discharge	88	70.96
Transferred to other department	32	25.80
LAMA	02	1.61
Absconded	02	1.61
Total	124	100

Most of the patients 70.96% (88) were discharged from the hospital once then health was completely assured. 32 (25.8%) patients were transferred to other departments of Gandhi Medical College for their medical/general surgical residual morbidities once the imminent danger had surpassed.

Discussion

Causes of Severe Acute Maternal Morbidity

Hemorrhage was the leading cause of acute severe maternal morbidity, which accounted for 62.9% of all cases. 20.16% cases had hypertensive disorder.

These findings are consistent with the studies by Khosla *et al.* [5] where major obstetric hemorrhage accounted for 50% of adverse events and Suleiman A *et al.* [6] where obstetric hemorrhage was the leading cause of severe acute maternal morbidity accounting for 32.8% of the cases and 17.2% cases were due to hypertensive disorders.

This is in contrast to various studies where hypertensive disorders were the main cause of severe acute maternal morbidity. Souza *et al.* [7] reported hypertensive disorders of pregnancy as main reason for severe morbidity accounting for 46% cases. Hypertensive disorders of pregnancy were responsible for 50.4% severe acute maternal morbidity cases. Eclampsia was found as the leading cause for maternal morbidity accounting for 70.6% cases in the study by Mjahed K *et al.* [8]. Study by Bibi *et al.* [9] attributed 50% of the causes of severe maternal morbidity due to hypertension in pregnancy. Chhabda P *et al.* [10]. (26) reported hypertensive disorders and hemorrhage to be equally responsible for severe acute maternal morbidity accounting for 26% and 36% cases each respectively.

4.03% cases were due to other medical disorders like anemia, hepatic encephalopathy, CCF due to heart disease and diabetic ketoacidosis.

Outcome of Pregnancy

Majority of SAMM cases i.e. 96% got delivered; while 4% cases were undelivered. Most of the women delivered because labor was induced or patients were managed by operative interventions in favor of maternal health.

In the present study 54.46% patients delivered vaginally, 46.77% required LSCS performed as a life saving measure. In contrast to the present study, Chhabda P *et al.* [10] in their study reported that patients required LSCS or instrumental deliveries in 20.83% cases. Study by Souza *et al.* [7] reports higher caesarean rate of 82.2%.

Perinatal Outcome

In the present study 83.5% delivered at term and 16.49% babies were preterm. Preterm induction of labour had to be done in favour of maternal health. In the study Souza *et al* 35.6% babies delivered in the preterm period.

In the present study 41.75% of the babies were live and were

discharged healthy. 53.8% babies were stillborn and 4.39% were neonatal deaths. Study by Souza *et al.* [7] reports that 11.2% babies were stillborn and 36.4% babies required admission in the NICU.

Higher incidence of stillborn babies is attributed to the severe morbidity of the mother in which she was brought to SZH which directly affected the perinatal outcome as well.

Conclusion

The most common reason SAMM was Hemorrhage due to ruptured ectopic pregnancy, followed by Hypertensive disorders of pregnancy like eclampsia.

Active management of third stage of labor, easey availability of blood & blood products & timely surgical interventions has helped save lives of the patients suffering from acute Blood loss & hemorrhagic shock. SAMM review can be useful surrogate of maternal death analysis in this centre.

SAMM is mostly associated with adverse perinatal Outcome. All these factors could be minimized by initiating a broad debate on healthcare policies, mass education on good antenatal care introducing preventive measures and improving the training of the health professionals and services providing obstetric care.

References

1. Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M *et al*. Maternal mortality for 181 countries, 1980–2008: A systematic analysis of progress towards Millennium Development Goal 5. Lancet 2010; 375:1609-23.
2. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. Soc Sci Med. 1994; 38:1091-110.
3. Gulmezoglu AM, Say L, Betran AP, Villar J, Piaggio G. WHO systematic review of maternal mortality and morbidity: methodological issues and challenges. BMC Med Res Methodol. 2004; 4:16.
4. Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD. Audit and feedback: effects on professional practice and health care outcomes. Cochrane Database Syst Rev CD 000259, 2006.
5. Khosla AH, Dahiya K, Sangwan K. Maternal mortality and 'near-miss' in rural north India; Int J Gynaecol Obstet. 2000; 68(2):163-4.
6. Suleiman A, Al-Suleiman Hatem 0, Qutub, Jessica Rahman, Sayed ur Rahman M. Obstetric admissions to the intensive care unit a 12 year review. Archievers of Gynecology and Obstetrics. 2006; 274(1)
7. Souza JP, Cecatti JG, Faundes A, Morais SS, Villar J *et al*. Maternal near miss and maternal death in the World Health Organization's 2005 global survey on maternal and perinatal health. Bull World Health Organ. 2010; 88(2):113-9
8. Mjahed K, Hamoudi D, Salmi S, Barrou LI. Obstetric patients in a surgical intensive care unit prognostic factors and outcome. Journal of Obstetrics & Gynaecology. 2006; 26(5):418-423.
9. Bibi S, Memon A, Sheikh JM, Qureshi AH. subacute maternal morbidity & intensive care in public sector in Pakistan, 2006.
10. Pragati Chhabda, Kiran Guleria Narinder Saini, kannan Tupil Anjur, Neelam Bala Vaid. pattern of severe maternal morbidity a tertiary hospital in Delhi, pilot study. 2008; 38(4):201-204.