

International Journal of Biomedical and Advance Research

ISSN: 2229-3809 (Online); 2455-0558 (Print)

Journal DOI: <https://dx.doi.org/10.7439/ijbar>

CODEN: IJBABN

Original Research Article

Analytical study of medical complications during pregnancy at SAMC & PGI, Indore**Khushboo Dudani***, Nootan Chandwaskar, Neeta Natu and Sapna Chourasia*Department of Obstetrics and Gynaecology, Sri Aurobindo Medical College & PGI, Indore, India*

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Department of Obstetrics and Gynaecology,
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Indore, India***Article History:****Received:** 17/04/2017**Revised:** 24/04/2017**Accepted:** 26/04/2017**DOI:** <https://dx.doi.org/10.7439/ijbar.v8i4.4117>**Abstract****Background:** Various medical complications may arise during course of pregnancy which may have adverse outcome on maternal morbidity and mortality. Prospective study was conducted for 1 year at tertiary care centre to analyse critically ill obstetrics patients due to medical complications.**Results:** Out of 100 cases, the age of the patients ranged from 18 to 40 yrs and majority of the patients were between 21 and 28 years of age i.e. 66%. 36 were booked patients. Approximately 37% of the patients admitted to the hospital were primi gravida and 15% patients were post-partum. 26% pregnancies were complicated by medical disorders, out of which 50% were liver disorders including acute viral hepatitis, HELLP and hepatic encephalopathy. 86 cases were discharged as 'Near-Miss', while there were 5 maternal mortalities of which 2 were due to infective hepatitis.**Conclusion:** Maternal morbidity and mortality can be minimized significantly by early assessment and aggressive intervention by a multi-disciplinary approach involving obstetricians, intensivists and anesthetists.**Keywords:** pregnancy, medical complication, obstetrics, HELLP syndrome**1. Introduction**

Obstetric patients are a particularly unique group of patients for the intensivist. These patients are usually young and healthy; their management is challenged by concerns for altered maternal physiology, diseases specific to pregnancy and fetal viability. There are several reports on critically ill obstetric patients but from India the data is scarce despite huge number of Maternal mortality is one of the important indicators used for the measurement of maternal health. Improvement of maternal health is one of the millennium development goals (MDG), MDG 5 with Target 5 A that calls for the reduction of maternal mortality ratio by three quarters between 1990 and 2015 obstetric population[1], which includes reduction in maternal mortality by 75% by 2015 from 1990 levels and expected annual decline in MMR from 1990 is 5.5%.

Factors which prevent women from receiving or taking care during pregnancy and childbirth are- poverty,

remote areas (distance), lack of information, inadequate services, sociocultural and behavioral factors. The objectives of our study were to review the indications for admission, demographics, pregnancies complicated by medical diseases, clinical characteristics, and outcomes of obstetric patients.

2. Material and methods

A prospective descriptive study of critically ill obstetric patients from 1st October 2014 to 30th September 2015 was undertaken at Sri Aurobindo Medical College & PGI, Indore, a tertiary care institution. The data was obtained from the attendants and the relatives of patients, regarding patient characteristics including age, parity, gestational age at admission, mode of delivery; ICU admission, total hospital duration, and medical complications of pregnancy. Critically ill obstetrics patients

who get admitted from 24 weeks of gestation till 42 days post-partum were considered for the study. Patients who did not give informed written consent were excluded from the study. Study was conducted after approval from Institutional ethical committee.

3. Results

Total 3230 deliveries occurred during study period. The total number of critically ill obstetric patients was 100. Out of 100 cases, the age of the patients ranged from 18 to 40 yrs and majority of the patients were between 21 and 28 years of age i.e. 66%.(Table 1) Out of 100 patients who came to hospital, 36 were booked patients. (They had minimum 3 antenatal visits to an obstetrician).(Table 2) Approximately 37% of the patients admitted to the hospital were primigravida and 15% patients were post-partum.(Table 3) 26% pregnancies were complicated by medical disorders, out of which 50% were liver disorders including acute viral hepatitis, HELLP and hepatic encephalopathy.(Table 4) Out of 100, 86 cases were discharged as ‘Near-Miss’, while there were 5 maternal mortalities of which 2 were due to infective hepatitis.(Table 5)

Table 1: Age wise Distribution of Cases

Age (years)	No. of Cases	Percentage
<20	13	13%
21-28	66	66%
29-34	17	17%
≥35	4	4%
Total	100	100

Table 2: Book/Unbooked

Booked/Unbooked	No. of Cases	Percentage
Booked	36	36%
Unbooked	64	64%

Table 3: Gravidity

Gravida	No. of Cases	Percentage
Primigravida	37	37%
Gravida 2	18	18%
Gravida >2	30	30%
PNC	15	15%
Total	100	100%

Table 4: Medical Diseases Complicating Pregnancy

Medical Diseases	No. of Cases	Percentage
Cardiac Disease	5	5
Liver Disorders (Viral Hepatitis + HELLP + Hepatic Encephalopathy)	13	13
Malaria	1	1
PAH	1	1
Coagulation Disorder	2	2
Sickle Cell Anemia	4	4

Table 5: Assessment of Morbidity and Mortality

Assessment	No. of Cases	Percentage
Near Miss cases	86	86%
Mortality	5	5%
Lama	9	9%

4. Discussion

Pregnancy represents a unique alteration in physical and physiological scenario that usually proceeds to completion without complications. However, complications may arise out of any obstetric condition arising out of the pregnancy or any pre-existing medical condition like rheumatic heart disease.

Risk factors for admission included lesser gestational age, blood loss and associated medical and surgical illness. Selo-Ojeme *et al*[2] also in their study found black race, emergency caesarean section and those with primary postpartum haemorrhage as risk factors for admission to ICU. Okafor *et al*[3] in their series found organ dysfunction, massive blood loss, and late presentations as risk factor for mortality.

Vigil-De Gracia P[4] reported the incidence of HELLP among patients with severe preeclampsia is reported to be 4-18.9% and in our study we found only 1% association. We found 0% mortality rate of AKI associated with HELLP syndrome whereas Yassamine *et al*[5] reported the mortality rate was 0% in the group of AKI associated with HELLP syndrome.

In our study there was 1 patient who had PAH and hysterotomy was done for that patient. In the post operative period patient had died. Weiss *et al*. [6] reported maternal mortality rates of 36% in Eisenmenger's syndrome, 30% in primary pulmonary hypertension (now called idiopathic pulmonary arterial hypertension (IPAH)) and 56% in pulmonary hypertension associated with other conditions.

In a series of 442 pregnancies complicated by HELLP syndrome, 92 had DIC (21 percent), the majority were associated with abruptio placentae[7] where as in our study 6% patients had DIC which was associated with PPH in 4%.

In 1996, Hinchey *et al*[8] his initial series, 3 of 15 patients with PRES had eclampsia, with other etiologies including hypertensive encephalopathy and immunosuppressive medications where as in our study there were 3 patients who had PRESS which was associated with eclampsia in 1 patient and other two had severe pre-eclampsia.

In our study 4 patients had Sickle cell disease and all the patients had associated pre eclampsia. Perhaps because of underlying renal disease, hypertension, or placental ischemia, women with SCD are more likely to experience preeclampsia and eclampsia. [9][10][11] In the

United States, the maternal mortality rate is approximately 10 times higher than it is for women without SCD.[9][11]

5. Conclusion

Maternal mortality alone is not a very good indicator, rather studying severe obstetric morbidity and its relation to mortality are better and sensitive measures for pregnancy outcome. This study concludes that 3% of all the obstetric patients required critical care which is quite comparable to western world. However, to date, there are no established universal criteria for the admission of critically ill obstetric patients to the intensive care unit (ICU). As a result, all the prospective and retrospective studies carried out to date show huge variations in the indications of ICU admission, mortality and morbidity rates, as well as the demographic characteristics. Maternal morbidity and mortality can be minimized significantly by early assessment and aggressive intervention by a multi-disciplinary approach involving obstetricians, intensivists and anesthetists.

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