Original Research Paper

Volume-8 | Issue-6 | June-2018 | PRINT ISSN No 2249-555X

General Medicine

A STUDY OF CRITICALLY ILL OBSTETRIC PATIENTS ADMITTED IN INTENSIVE CARE UNIT AND THEIR OUTCOME AT A TERTIARY CARE CENTRE

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ABSTRACT

Background: Pregnant women require Intensive Care Unit(ICU) admissions due to either obstetric emergencies or underlying pre existing medical conditions aggravated during pregnancy.
We aim to determine spectrum of these patients admitted in ICU with respect to etiology and outcomes.
Materials and Methods: Retrospective analysis of 46 patients admitted in last 18 months from March 2016 to September 2017 were taken and studied with respect to etiology and outcomes. Pregnant women >18years of age were included.
Results: Out of the 46 patients studied, 26 (56%) had obstetric indication for admission to ICU whereas 20 (44%) had medical indication. 7 deaths had occured (15%) during this period. Most common indication for admission amongst obstetric patients were Pre-Eclampsia and its complications whereas amongst medical conditions it was cardiovascular disorders. Mean age of the patients was 24 years.
Conclusion: Obstetric ICU management is a team work of physicians and obstetricians. Intensive monitoring, early intervention is key in reducing the maternal mortality to significant extent.

KEYWORDS : Obstetric, critical care, sepsis, postpartum

Introduction-

Pregnant women require Intensive Care Unit (ICU) admissions due to either obstetric emergencies or underlying pre existing medical conditions aggravated during pregnancy. Haemorrhage, either antepartum or post partum along with toxaemia (pregnancy induced hypertension) have remained the leading causes of maternal morbidity and mortality in majority studies[1]. Care of critically ill pregnant women presents as unique challenge as the assessment, monitoring and treatment must take into account both fetal and maternal wellbeing.

Aim and Objective

To study clinical profile critically ill obstetric patients admitted in ICU with respect to etiology and outcomes

MATERIAL & METHODS

This was a retrospective analysis of 46 obstetric patients admitted in last 18 months from March 2016 to September 2017.

Inclusion criteria

1. Pregnant female who became critically ill during the course of pregnancy at any trimester either from casualty or from ward.
2. Pregnant female admitted directly to medical /obstetric ICU due to critical condition. All such patients requiring ICU admissions were studied for the epidemiology, etiology, clinical features and outcome. Total number of deliveries was calculated in the hospital during the period to calculate the incidence of patients requiring ICU care. Different factors like medical versus obstetric indications, system wise affection in the disease process, age of the patients were studied.

Statistical Analysis

The data was processed statistically to calculate incidence of critical illness amongst obstetric patients, disease wise distribution, and calculation of mortality and Chi square test to calculate P value. P value was calculated to test the significance of relationship between obstetric and medical causes affecting the mortality.

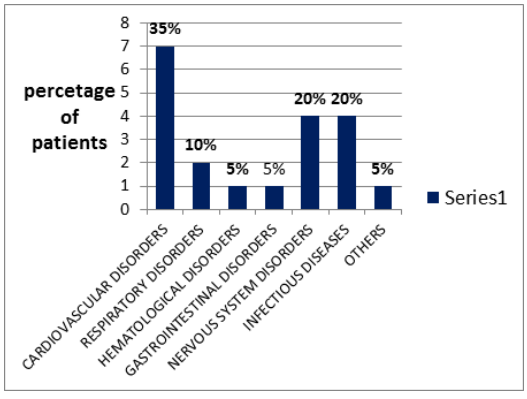
Observation and Results

Total 46 obstetric patients were admitted in Intensive care Unit, hence included in the study.

Of the 46 patients admitted in ICU, (n=18) 40% were primigravida and (n=28), 60% were multigravida. 26 (56%) patients had obstetric indication and n=20(44%) had medical indication for admission to ICU. Out 46 patients 7 patients (15%) died. Mean age of the patients was 24 years. Total number of deliveries in this period was 6930.Out of which 4784 were normal deliveries and 2146 were LSCS. Overall most common indication for ICU admission was cardiovascular group of disorders. Different causes for cardiovascular causes were valvular heart disease, myocarditis, pulmonary embolism hypotension septic shock from pneumonia or urinary tract infection etc. Ventillatory support was required in (n=10)21% of the cases. Neurological dysfunction due to variety of causes like, meningoencephalitis, stroke, cerebral venous sinus thrombosis and hypoxic ischemic injury was present in 20% patients. Haemodialysis was required in (n=3)0.6% of patients. Patients with ventilator requirement had bad prognostic outcom, whereas patients with cardiovascular disorders had prolonged stay in ICU, mean of 21 days. Out 0f 46, n=39(85%) patients had favourable outcomes were discharged and went home.

Following is the graphical presentation of system wise distribution of etiology.

Figure 1 showing system involvement

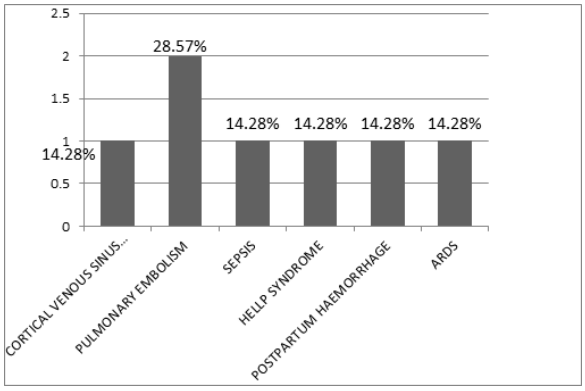


20% patients had infectious diseases, mostly tropical, in the form of dengue, malaria, acute gastroenteritis etc.

ETIOLOGY OF OBSTETRIC INDICATIONS ADMITTED IN ICU -

Out of 46, 26 patients had obstetric indication for ICU admission. The most common obstetric indication for ICU admission was pre-eclamsia (23%), followed by post partum haemorrhage leading to shock (15.38%). In studies done by Price L C and Zeeman G G , most common causes were hypertension and hemorrhage[2, 3]. Anemia and antepartum haemorrhage each contributed to 19.2% of indications for ICU admission. Eclamsia, HELLP syndrome (haemolysis, low platelets and elevated liver enzymes), and other causes such as threatened abortion etc contributed to7.6% of ICU admissions. These were predominantly obstetric indications without having any underlying medical illness. Obstetric Hysterectomy was done in (n=4)0.9% of patients.

Table 2 showing Causes of death in obstetric patients



Out of 7 deaths, 4 were due to medical disease and 3 were obstetric causes. The association of medical versus obstetric admissions leading to outcome as death was not statistically significant. P value calculated by Chi Square test was found to be 0.7. Thus there was no significant difference in mortality due to either medical or obstetric indications for ICU admissions.

Discussion-

Maternal mortality is considered as an indicator of health care system in a particular region or country[4]. Pregnant women are generally young and are in good health unless they have any underlying disease. As in our study, the mean age of patients was 24 years. However the tremendous physiological changes taking place may at times pose great challenge in managing such patients if they develop complications. Mantel et al have mentioned in their study, near miss as a very ill pregnant or recently delivered woman who is managed aggressively otherwise likely to die. This is called as severe maternal morbidity[5].They may require Intensive Care Unit (ICU) admissions during antepartum, intrapartum or postpartum period as a result of obstetric emergencies or underlying pre existing medical conditions aggravated during pregnancy. Care of critically ill pregnant women is unique as it requires monitoring and treatment of both mother and fetus, of course the preference given to well being of the mother. Hemorrhage, toxemia, anemia and septicemia constitute common causes of mortality and morbidity in obstetric patients[6, 7]. Careful monitoring and aggressive management of critical patients can result in rapid recovery of such patients after an acute insult. In our study, 26 (56%) patients had obstetric indication for admission to ICU. Preeclampsia was the commonest obstetric indication. In a study done by Mantel et al, 26% patients had hypertension and haemorrhage as the commonest indication followed by sepsis. Sepsis was one of the important causes of ICU admission in a study done by Gombar S and Pattnaik[8, 9]. In our study and n=20(44%) had medical indication. This was higher as compared to study done by Baskett and Sternadel, where it was 29%. The reason behind this might be that, ours is a tertiary care and referral centre. So patients with underlying medical disorders were either detected or referred more frequently to our institute. Patients with ventilator requirement had bad prognostic outcome. This was similar to a study by Zwart et al[11]. Patients with cardiovascular disorders had prolonged stay in ICU, mean of 21 days. Average hospital stay was 6.5 days in our study. Duration of hospital stay was also studied by Zwart and Leung N Y, was found to be 5 days on an average[12].

Conclusion and summary

Obstetric ICU management is a team work and multidisciplinary approach is needed. Intensive monitoring and early intervention are key in reducing the maternal mortality to significant extent.

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