

Maternal near miss: a bigger challenge

Abstract

Introduction: Maternal near-miss case is a new concept and is defined as “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy”. The objectives of the present study were: to identify among all women admitted to hospital during pregnancy, delivery and in the postpartum period those that were indicative of severe acute maternal morbidity; to find out and analyse the cause of hospitalization.

Materials & methods: This was a descriptive study done for a period of 24 months between 1st January 2013 and 31st December 2014 in our hospital. Cases of severe obstetric morbidity were analyzed in regard to characteristics like age, parity, and gestational age at admission, Intensive Care Unit (ICU) admission, and surgical intervention to save the life of the mother were considered. Maternal near miss (MNM) indices were calculated.

Results: There were 150 cases of near miss, 3123 live births and 9 cases of maternal deaths. Maternal near miss incidence ratio is 48.03. Maternal near miss mortality ratio is 16.66. Mortality index (MI) is 5.66%. Mostly near miss cases were antenatal at >28 weeks of gestation with hemorrhage and hypertension being commoner causes responsible. The highest mortality index was found with cardiac causes (25%) followed by sepsis (16.6%) and eclampsia (14.2%).

Conclusion: All near misses should be interpreted as free lessons and opportunities to improve the quality of service provision.

Keywords: Maternal near miss, Maternal mortality, Mortality index

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Abbreviations: ICU, intensive care unit; MNM, maternal near miss; MI, mortality index; LB, live births

Introduction

Women who survive life-threatening complications related to pregnancy and delivery have many common aspects with those who die of such complications. This similarity brought forth the near-miss concept in maternal health. Analysis of the similarities, differences and the relationship between those two groups of women provide a complete assessment of quality in maternal health care. The concept of maternal near miss has been evolving during the past two decades as deaths from complications of pregnancy and childbirth is progressively decreasing in many countries, while number of survivors of those life-threatening complications exceeds the number of those who die. Therefore, studying those women who nearly died but survived, identified as the near-miss cases, would give a better indication of care provided for those women who survived the near-miss event.¹ Currently, a maternal near-miss case is defined as “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy”.²

The objectives of the present study were: to identify among all women admitted to hospital during pregnancy, delivery and in the postpartum period those that were indicative of severe acute maternal morbidity; to find out and analyse the cause of hospitalization.

Materials and methods

This was a descriptive study done for a period of 24 months from 1st January 2013 to 31st December 2014 in our hospital. It is a tertiary care hospital with well equipped 24 hour labour ward facility, with High Dependency Unit and intensive care facility. Cases of severe obstetric morbidity who met WHO criteria were identified during daily

morning rounds and all new admissions in last 24 hours including serious inpatient cases were discussed. All the cases were followed up during their hospital stay till their discharge or death. Patients were analyzed for age, parity, and gestational age at admission, Intensive Care Unit (ICU) admission and life saving surgical intervention was considered. Patients were then categorized by their final diagnosis with respect to hemorrhage, hypertension, sepsis or indirect causes. Medical disorders were considered as indirect causes of maternal near miss and deaths.³⁻²¹

The following maternal near miss (MNM) indices were calculated.

- a) MNM incidence ratio refers to the number of maternal near miss cases per 1,000 live births (LB).

$$(LB). \quad \frac{MNM \ IR = MNM}{LB \times 1000}$$

- b) Maternal near miss mortality ratio is the proportion between maternal near miss cases and maternal deaths. Higher ratio indicates better care. MNM: 1MD.

$$\left(\frac{MI = MD}{MNM + MD} \right) \times 100$$

- c) Mortality index (MI) = Number of maternal deaths divided by the number of women with life threatening conditions, expressed as a percentage.

Higher index means more women with the life threatening condition die (low quality of care), while low index suggests better quality of health care.

Summary and conclusion

We reported four cases over a 15 hour shift of ruptured and unruptured ectopic pregnancies over 15 hours shift in various diagnostic stages. Majority of our patients are not candidates for medical management due to inconsistent medical follow-up. Prompt and precise evaluations with medical or surgical management are essential components to optimize patient outcome. Health Care Providers in the emergency department as well as the gynecology on call team should be familiar with both the diagnostic and therapeutic modalities of ectopic pregnancy in order to expedite the safest patient care.

Also, because of this city hospital catchment area, the likelihood of early diagnosis of an ectopic pregnancy is low; therefore, education for the risk of sterilization failure must be reinforced preoperatively and postoperatively for tubal ligation particularly in younger patients.²² Patients should also be counseled about the early symptoms of an ectopic pregnancy so that they may present to the hospital before complications occur.

Despite technological advances in early diagnosis of ectopic pregnancy with the use of transvaginal sonogram and serial β -HCG titers, patients still present to the emergency department with ruptured ectopic pregnancy necessitating acute surgical interventions. This is especially prevalent in inner city hospital catchment area where patients often wait until development of severe symptoms before presenting for medical care.^{23,24} Therefore, diagnosis of ectopic pregnancies warrens a high index of suspicion and treatment plans that are individualized, particularly to area of services with attention to patient compliance.^{25,26}

Prior tubal surgery with or without cesarean, has been demonstrated to increase the risk of ectopic pregnancy.²⁷ Upon presentation to the ED with the typical symptoms in a woman of childbearing age, a brief history of lifestyle with clinician evaluation may detail the patient's risk of an ectopic pregnancy. Although the management for ectopic pregnancy is often conservative, the evaluation for surgical management due to ruptured ectopic pregnancy has to remain heightened. Therefore, the on call gynecological team must be vigilant for proper diagnosis and emergency surgery.

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Conflicts of interest

The authors declare there is no conflict of interests.

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