Peri-mortem Cesarean Delivery... A Reality not Fiction

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Abstract

Antepartum hemorrhage is one of the leading causes of mortality around the world. It can result in hypovolemic shock leading to circulatory arrest during pregnancy. A well planned strategy is required for its management in all hospitals. To deliver a woman in this situation is a dilemma which needs very prompt decision and a swift speedy action. Not only the woman's life is in danger, the fetus is also at risk and urgent delivery may be life saving for both mother and the fetus. All obstetricians should be trained to deal with such situation with full understanding and awareness of the condition.

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Introduction

Peri mortem or post mortem caesarean delivery is an important subject which needs proper training and education of staff as well as community. It can be life saving for the baby and mother both. It is not a part of routine training curricula and my purpose of writing this case report is that there should be guidelines, protocols and proper teaching of obstetricians, midwives and the staff dealing with emergency situations in order to improve maternal and fetal outcome.

Case Report

A 35 years old female; multiparous anemia, gravida 10 Para 9, with a history of previous three caesarean sections is presented with repeated episodes of antepartum hemorrhage due to anterior low lying placenta. As a consequence, she refused admission in this pregnancy, which made her management difficult despite involvement of all possible hospital and community resources. Her family and husband also did not consider the severity of the situation despite detailed discussion with the husband on her antenatal visits. At 35 weeks of pregnancy, she started bleeding while at home and arrived at hospital after almost one hour of heavy bleeding at home. When her husband brought her to hospital, her pulse and blood pressure were unrecordable and she was gasping. She had cardiac arrest immediately when she was being taken inside the delivery suite on a stretcher, emergency code blue was activated and she was intubated within a few minutes. She was taken into the operation theatre where immediate classical caesarean section was performed. Cardiopulmonary resuscitation (CPR) was continued at the same time. The reason for doing the caesarean section was to improve maternal outcome and hope that baby may be alive although time did not allow confirmation of presence of fetal heart by Doppler or ultrasound. The baby was delivered within 15 minutes of reaching the hospital. The baby was delivered alive although with poor Apgar score. The Apgar score was recorded as 2 since respiration and heart beat were present and number 1 was given to each. Cord blood pH was found to be 6.4 confirming that baby had already suffered severe asphyxia. Despite all active measures for resuscitation, the baby died after 30 hrs due to severe birth asphyxia. The mother was declared dead soon after the baby was delivered, the abdomen was closed in single through and through suture and resuscitation efforts were suspended.

Discussion

Antepartum haemorrhage due to placenta praevia is one of the major causes of maternal mortality around the world. This is avoidable if proper antenatal precautions can be taken and the patient and family can play an important role in this situation. Non-compliance on the part of woman and her family may be a major cause of poor outcome like in this case.

As circulatory arrest during pregnancy is rare, there should be a well planned strategy for its management in all hospitals. Cardiopulmonary resuscitation(CPR) should commence immediately with the mother placed in 15^0 left lateral position, tilting the pregnant uterus to the mother's left side in order to relieve compression of the vena cava and should be continued when delivery is undertaken. CPR in late pregnancy may still be ineffective due to inadequate venous return to the heart and especially in cases of severe hypovolaemia due to severe ante partum haemorrhage.[1]

There have been case reports suggesting good survival and

normal follow up of children born by peri-mortem or postmortem caesarean section.[2] Important aspect of management is awareness among the obstetricians, paramedical staff and the public as speed of decision and performance is extremely important and baby can be salvaged if appropriate decision is taken in appropriate time.[3]

Peri-mortem caesarean section is a reality, not fiction. It may really help. There have been several case reports of successful outcome of both mother and child after caesarean section even when there was no apparent maternal cardiac output or audible fetal heart.[4]

Indeed, caesarean section itself is well established as part of the resuscitation process in the near term pregnant woman, because the effectiveness of cardiopulmonary resuscitation is compromised by aorto-caval compression, with obstruction of the inferior vena cava limiting venous return to the heart. Lateral tilting increases venous return to the heart by 25%. At the same time, if done within a short span of time, as soon as possible after the maternal cardiac arrest, the baby may survive with no problems later, although this is the main fear that the baby may have neurological handicap. There have been successful outcomes in peri-mortem caesarean delivery in cases of gunshot injuries, trauma cases in addition to cardiac arrest due to cardiac disease.[4]

It is extremely important to use all resources to educate the women and their family in high risk cases. Community services can play an important part in improving the outcome in high risk cases and this case represents an important problem which needs to be addressed. Adequate teaching programme and guidelines/ protocol on the management of this severe condition of maternal cardiorespiratory collapse may bring positive outcomes by having a proper strategy in plan when such emergency arises.

Conclusion

Peri-mortem caesarean section is an attempt worth taken and it may have good outcome for mother and child but well planned strategy, speed of decision and performance is imperative. Educating staff, the public and community is an important aspect of management in management f high risk cases.

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