Obstructed Labour - Still a Tragedy in Developing Countries: An Analysis of 100 Cases

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Obstructed labour is one of the most common complications of pregnancy and is responsible for maternal and fetal morbidity and mortality in countries with very high birth rate like Bangladesh. This prospective observational study was carried out to determine the causes of obstructed labour as well as the causes of delay in seeking obstetric care in spite of an existing comprehensive healthcare delivery system and to observe the fetal and maternal consequences of obstructed labour. This study included 100 patients who attended at Dhaka Medical College (DMCH) over a period of 1 year. Causes of obstructed labour included malpositions (41%), contracted palvis and CPD (33%) and malpresentations (26%). They underwent home trial due to unpredictability of consequences, uneventful previous deliveries, family members and patients disagreeing to come to hospital, fear towards operative modes of delivery and economic constraints. After failure of home trial, they (48%) attended nearby healthcare facility and were refused due to unavailability of operative facilities - leading to delay in seeking emergency obstetric management. Looking towards the fate of obstructed labour, it was found that, 7% patients needed subtotal hysterectomy due to ruptured uterus and 3% had impending rupture - as observed per operatively. 35% of patients had wound infection, 8% had wound dehiscence, 19% had sepsis and death (due to septicemic shock, irreversible shock and anesthetic complication) occurred in 4% of patients. 38% of babies were still born, 50% were asphyxiated - of which, 20% died within 7 days of delivery.

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Introduction

Obstructed labour is still a quite common complication of pregnancy in the developing countries and is one of the major causes of maternal death in Bangladesh. It is also responsible for maternal and fetal morbidity and is a particular problem in a country like Bangladesh, where birth rate is too high, number of trained medical personnel is short, communication and transportation systems are underdeveloped and general financial condition of the nation is poor. In Bangladesh, maternal morbidity rate (MMR) was 480 per thousand live births.[1] The reduction of MMR demanded urgent need for a reappraisal of the existing interventions – which resulted in a decline of MMR to 322 per thousand live births in 2001 and 194 per thousand live births in 2010.[9] This figure is also not up to the satisfactory level and the government has taken initiatives to reduce MMR to 194 per thousand live births by 2015 – a program named Millennium Development Goal 5 (MDG).[9]

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The government of Bangladesh is the first to embark on a program steaming from the safe motherhood initiative.[2] In spite of having a comprehensive infrastructure for health care delivery, these precious resources are not being utilized effectively. Statistics show that more than 90% of deliveries are conducted at home. Traditional birth attendants (TBA) conduct about 6.3% of the deliveries of which, 30% are conducted by untrained TBAs and 25% by trained ones.[2] Effects of these deliveries are reflected in the form of high maternal and fetal morbidity and mortality in our country.

Obstructed labour is a major cause of fetal and maternal morbidity and mortality. Maternal complications include obstetric fistula (VVF, RVF), ruptured uterus and vaginal stenosis. Fetal complication is mainly prenatal asphyxia that leads to cerebral palsy, mental retardation and neonatal death.

This study was carried out to determine the causes of obstructed labour and causes of delay in seeking care and to observe the consequences of obstructed labour on mother and fetus.

Methods

This was a prospective observational study, carried out at Dhaka Medical College Hospital (DMCH) over a period of 1 year and included 100 patients. Selection criteria of the patients included women with term pregnancy with clinical diagnosis of obstructed labour who should have features like exhaustion and dehydration with or without history of prolong duration of labour, non-engagement of the fetal head with varying degree of moulding and formation of caput due to cephalopelvic disproportion; persistent occipito-posterior position or deep transverse arrest associated with midpoint outlet contraction, shoulder presentation, distention of urinary bladder with occasional hemorrhagic urine, presence of Bandl's ring in uterus and failure of cervical dilatation with or without edematous changes. Data were collected personally using a prepared questionnaire and were processed by hand tabulation and calculation.

Results

The incidence of obstructed labour was 5.22% during the study period. Investigation to the sequence of events that happened before coming to the hospital revealed that, 66% patients had no ANC. At first, they went for a home trial as they were unable to predict the fate (25%) and most importantly because of uneventful previous deliveries. Other causes for home trial included family members and patients disagreeing to come to the hospital, avoidance or fearing operative modes of delivery (18%), economic constraints etc. After failure of home trial, about half of the study patients (48%) attended nearby healthcare facility and were refused due to unavailability of operative facility. 54% of total patients were primigravida and the rest were multipara with number of parity varying from 1 to 8. More than half of multipara patients had previous history of prolong labour and 21.62% had history of still birth following difficult labour during previous deliveries. 57% of study patients came to the hospital within 24 hours after commencement of labour pain whereas; the rest arrived after 24 hours.

When we looked at the general condition of patients on admission, all the patients were found to have tachycardia and dehydration. 27% of patients had elevated temperature. Almost half of the patients (55%) had laboured breathing and about 88% patients had bowel and bladder distension. In 63% of study patients, fetal heart sound was detected on admission and fetal heart sound was absent in 37% of cases.

While looking towards the causes of obstructed labour, majority (41%) of the cases

had malpositions, one third (33%) had contracted pelvis and CPD and another 26% had malpresentations like shoulder presentation (61.53%), brow presentation (30.76%) and face presentation (7.69%).

92% of patients underwent LUCS and 7% needed subtotal hysterectomy due to ruptured uterus. Uterus was intact in 90% of cases, whereas 3% had impending rupture as observed peroperatively. One third of patients (33%) had uneventful postoperative recovery, 35% cases had wound infection, 8% had wound dehiscence and 19% had sepsis. 12% of babies were healthy, 38% of babies were still born and 50% of babies were asphyxiated of which, 20% died within 7 days of delivery. Maternal death occurred in 4% of patients. Two patients died due to septicaemic shock, one died of irreversible shock due to ruptured uterus and one died due to anesthetic complication.

Discussion

There is no national statistics showing the incidence of obstructed labour. This study represents a prevalent situation in a tertiary care hospital and the overall condition to some extent. In India, the incidence of obstructed labour was found varying from 2% - 5%.[3] In Eastern Nigeria, study over a period of five years revealed the incidence of 4.7%[4] and in Pakistan the incidence was found to be 4%.[5] In this study, the incidence was found to be 5.22%, which is statistically consistent with the above mentioned studies.

In this study, 54% of patients were primigravida, 7% were grand multigravida and in 39% of patients, parity ranged from 1 to 4. This finding is statistically relevant to values of other studies.[6,7]

All of the patients in this study came from families with poor and middle socio-economic status and their educational status was very low (40%). Poverty and low education of present study population had significant relationship with their health awareness - which is reflected by their attendance to antenatal clinics. Only one third (34%) of study population were under antenatal checkup. Although the ANC was irregular, it can be said that, the condition is better in our country compared to that in Pakistan, where percentage of booked cases was 7%[5] at the time concerned - which reflects a little change in attitude and awareness in general population. However, the ANC in our country is not up to a satisfactory level.

As stated earlier, 57% of patients in this study came to tertiary level hospital within 24 hours of commencement of labour pain which is comparable to other studies.[5] In developing countries, patients usually come to central hospitals with full blown picture of obstruction and fetal asphyxia. In this study, fetal and maternal conditions were evaluated very carefully based on clinical examination. Rupture of uterus is a common complication of neglected obstructed labour in multigravid patients. In this study, ruptured uterus was found in 7% of patients, which is also similar to other studies where incidence of ruptured uterus varied from 8.06% - 24%.[5,6,8] The most interesting finding about cause of obstructed labour in this study was high rate of malpresentation compared to other studies[5]. Among malpresentation, shoulder presentation was the commonest one (61.53%), which is also unusually higher compared to other studies.[5,7]

Conclusion

This study can only provide us with an idea about the situation in our country, but larger studies are required to find out nationwide status of obstructed labour. In this study, we have seen that, 66% of patients had no antenatal checkup (ANC) - which reflects ignorance and negligence. Massive health education, community awareness,

identification of high risk pregnancies and motivation to seek emergency obstetric care (EOC), presence of a skilled birth attendant at each delivery, labour monitoring by partograph for early diagnosis, institutions for birth plan during ANC, better anesthetic facility - all these measures can be taken to reduce the incidence of obstructed labour and its complications. The findings of the study also suggest that, we need massive intervention at prenatal, intranatal, postnatal and family welfare services for improvement at each step.

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