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A descriptive study of Feto maternal outcomes of obstructed labour in a tertiary care hospital

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Abstract---Introduction: Labour is considered abnormal when the presenting part of the foetus cannot progress in to the birth canal, despite strong uterine contractions which leads to various maternal or foetal complications. Obstructed labour accounts for about 8% of all maternal deaths in developing countries like India. Obstructed labour is the single most important cause of maternal death and is one of the leading causes of perinatal mortality. Materials and methods: This prospective study of obstructed labour was conducted from September 2021 to May 2022 (9 months) in the Department of obstetrics and Gynaecology of M.G.M Medical College, Jamshedpur. All patients admitted with obstructed labour were included in the study. Detailed history regarding age, socioeconomic status, parity, previous obstetric history, past history, antenatal care, duration of labour, details of referral and management were recorded. During admission, the general condition of mother was assessed as well as fetal lie, presentation, position and heart sounds were recorded. Results: During the 9 months study period, there were total of 5845 deliveries of which 100 cases were diagnosed to have obstructed labour, incidence being 1.71%. Maximum cases were in age group of 19-24 years (65%). 87% of the patients were from rural areas and 78% of the patients were unbooked. The commonest cause of obstructed labour was cephalopelvic disproportion (55%). Other causes were Malposition (23%), Malpresentation (18%), foetal congenital abnormality (2%), Myomas (1%), others (1%). 4 (1.11%) cases of previous caesarean section came in advanced stage of obstructed labour and resulted in rupture uterus. Conclusion: Obstructed labour is a preventable condition prevalent in developing countries. Improving nutrition, antenatal care, early diagnosis and timely intervention may result in decrease in incidence of morbidity and mortality.

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Keyword---labour, cephalopelvic disproportion, myomas, foetal congenital abnormality.

Introduction

Labour is considered abnormal when the presenting part of the foetus cannot progress in to the birth canal, despite strong uterine contractions which leads to various maternal or foetal complications. Obstructed labour accounts for about 8% of all maternal deaths in developing countries like India.[1] Obstructed labour is the single most important cause of maternal death and is one of the leading causes of perinatal mortality. Maternal mortality ranges between 1% and 13% and perinatal mortality between 74% and 92%. It is one of the most common preventable causes of maternal morbidity and mortality in developing countries.[2] Each year 210 million women become pregnant of whom 20 million will experience pregnancy related illness and 500,000 will die as a result of complications of pregnancy or child birth.[3] In 1987, the world health organization launched the safe motherhood initiative which aimed to reduce maternal morbidity and mortality by 50% by year 2000.[4] This initiative did not succeed, but continued to be a major focus of WHO effort. WHO target is to reduce maternal mortality ratio less than 70 per 100000 live birth by 2030.

There are differences in the behavior of the uterus during obstructed labour, depending upon whether the women have delivered previously. The pattern in primigravida women (typically diminishing contractility with risk of infection and fistula) may result from tissue necrosis whereas in parous women, contractility may be maintained with risk of uterine rupture.[6] The present study was conducted to detect the risk factors, presentation, management and outcome of obstructed labour in a tertiary care centre, so that early intervention strategies may decrease the incidence of morbidity and mortality. The main objective is to study the frequency, causes, management, outcome and complications of obstructed labour. This will help to formulate a positive strategy in our setup to prevent obstructed labour and its consequence.

Materials and Methods

Study design

A prospective study

Study Location

Department of Obstetrics and Gynecology, M.G.M Medical College, Jamshedpur.

Study Duration

September 2021 to May 2022 (9 months).

This prospective study of obstructed labour was conducted from September 2021 to May 2022 (9 months) in the Department of obstetrics and Gynaecology of

M.G.M Medical College, Jamshedpur. All patients admitted with obstructed labour were included in the study. Detailed history regarding age, socioeconomic status, parity, previous obstetric history, past history, antenatal care, duration of labour, details of referral and management were recorded. During admission, the general condition of mother was assessed as well as fetal lie, presentation, position and heart sounds were recorded. Pelvic examination was carried out to assess the cervical dilatation, state of liquor amniii, position, pelvic assessment, degree of caput, moulding.

Diagnosis of maternal exhaustion, dehydration, genital sepsis, pyrexia, rupture uterus, post-partum hemorrhage, Vesico-vaginal fistula, and shock was made. Any death occurring as a consequence of obstructed labour was noted. Diagnosis of live or asphyxiated or dead fetus or neonatal death was done by taking APGAR score at 1 and 5 minutes following birth. Mode of delivery (Assisted vaginal, cesarean section), time interval between referrals, admission, intervention done at tertiary care centre and related fetomaternal outcome were noted. Destructive procedures are discouraged in our centre. At postpartum period, data regarding maternal outcome were recorded which included abdominal distension, postpartum hemorrhage, foul smelling discharge, fever, character of wound, burning micturation, urinary incontinence. Fetal condition was evaluated by the nature of feeding, development of jaundice, neonatal infections. Outcome and complications of Lower segment Cesarean Section (LSCS), instrumental deliveries (vacuum extraction, forceps) were recorded.

Results

During the 9 months study period, there were total of 5845 deliveries of which 100 cases were diagnosed to have obstructed labour, incidence being 1.71%.

Table 1
Demographic Profile

Characteristics	Number	Percentage
Residence		
Rural	87	87
Urban	13	13
Antenatal Checkup		
Booked	22	22
Unbooked	78	78

Table 2
Age Distribution

Age in years	Number	Percentage
19-24	65	65
25-29	24	24
>30	11	11

Maximum cases were in age group of 19-24 years (65%). 87% of the patients were from rural areas and 78% of the patients were unbooked. The commonest cause of obstructed labour was cephalopelvic disproportion (55%). Other causes were Malposition (23%), Malpresentation (18%), foetal congenital abnormality (2%), Myomas (1%), others (1%). 4 (1.11%) cases of previous caesarean section came in advanced stage of obstructed labour and resulted in rupture uterus.

Table 3
Parity of patients of obstructed labour

Parity	Number	Percentage
Primigravida	73	73
Multigravida (<3)	15	15
Grandmultigravida(>3)	12	12

Table 4
Causes of obstructed labour

Causes	Number	%
Cephalopelvic disproportion	55	55
Malposition	23	23
Malpresentation	18	18
Fetal congenital anomaly	2	2
Myoma	1	1
Previous cesarean section	1	1

Table 5
Different modes of delivery

Type	Number	%
Cesarean section	84	84
Instrumental delivery	10	10
Laparotomy with repair of rupture uterus	4	4
Subtotal hysterectomy	2	2

Table 6
Maternal complications of obstructed labour

Complication	Number	%
Maternal sepsis		
Pyrexia	15	15
Urinary tract infection	7	7
Wound Infection	12	12
Postpartum Hemorrhage	9	9
Rupture Uterus	4	4
Vesico Vaginal Fistula	2	2
Bladder Injury	2	2

Hysterectomy	3	3
Maternal Death	1	1
Broad Ligament Hematoma	1	1
Abdominal Distention	11	11
Peritonitis	1	1
Subinvolution	10	10
No Complications	22	22

Table 7
Fetal outcome of obstructed labour

Outcome	Number	%
Live Births	79	79
Still Births	21	21

Morbidity	Number	%
Birth Asphyxia	22	22
Septicemia	11	11
Meconium Aspiration Syndrome	7	7
Convulsions	2	2
Jaundice	13	13
Umbilical Sepsis	2	2
No Complications	19	19

Discussion

The incidence of obstructed labour in the present study was 1.71% which was lower than the incidence by Fantu et al (12.2%), 4.2% by Islam et al, 2.7% by Ikojo et al 3.3 % by Gassessew et al 2.1 % by Menon et al, 3.2% by Aboyeji et al.[7] In our study, common causes of obstructed labour were cephalopelvic disproportion (55%), Malposition (23%), Malpresentation (18%). Mostly the patients were primigravida (73%) and of age group 19-24 years (65%). The incidence of obstructed labour was higher in unbooked patients (78) comparable to study done by Shimelis and Fantu et al. 86.5% of the patients who presented with features of obstruction were from rural areas showing lack of proper healthcare facilities.[8] Lower segment cesarean section was the commonest method of delivery (84%), followed by instrumental deliveries (10%). In our center destructive procedures are not encouraged. There were total 4 cases of rupture uterus out of which 2 were repaired and 2 underwent subtotal hysterectomy.[9] The total number of live births were 79 (79%) and still birth 21 (21%). Perinatal mortality reported from various studies was as follows: Dafallah et al 27.1%, Neena et al 38%, Sabyasachi et al 22.68%. In our study perinatal mortality was 27/100 (27%). Perinatal morbidity was commonly due to birth asphyxia (22%), Jaundice (13%), Septicemia (11%), Meconium aspiration syndrome (7%).[10]

Conclusion

Obstructed labour continues to be a major cause of maternal and perinatal morbidity in low income countries and accounts for approximately 8% of maternal deaths globally. The common mode of delivery is by caesarean section. Poor referral system, low socioeconomic status, inadequate antenatal care services lead to many cases of obstructed labour. They are further compounded by poor road connectivity resulting in delayed specialized care. Early recognition of obstructed labour cases and immediate safe abdominal or vaginal delivery can decrease the incidence of maternal and perinatal morbidity and mortality. Addressing socio demographic determinants will certainly contribute towards reducing the incidence of obstructed labour.

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