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A Retrospective Observational Study of Foetomaternal Outcome of Obstructed Labour in a Tertiary Care Hospital

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Abstract
Introduction: *Obstructed labor continues to plague thousands of women each year, accounting for about 8% of all maternal deaths in developing countries like India. It is the leading cause of hospitalization, comprising up to 39% of all obstetric patients in developing countries. Obstructed labor is the single most important cause of maternal death and is one of the three leading causes of perinatal mortality with the case fatality rate of 87%-100%.*
Materials and Methods: *This Retrospective study of obstructed labour was conducted from January 2019 to December 2019 in the Department of obstetrics and Gynaecology of Hazaribagh Medical College, Hazaribagh, Jharkhand. 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 one year study period, there were total of 8456 deliveries of which 145 cases were diagnosed to have obstructed labour, incidence being 1.71%. Maximum cases were in age group of 19-24 years (64.4%). 86.5% of the patients were from rural areas and 78.2% of the patients were unbooked. The commonest cause of obstructed labour was cephalopelvic disproportion (55%). Other causes were Malposition (22.9%), Malpresentation (17.9%), foetal congenital abnormality (1.38%), Myomas (0.83%), others (0.83%). 4 (1.11%) cases of previous caesarean section came in advanced stage of obstructed labour and resulted in rupture uterus.*
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.*

Key words: *Obstructed labor, maternal death, Malposition, rupture uterus.*

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I. Introduction

Obstructed labor continues to plague thousands of women each year, accounting for about 8% of all maternal deaths in developing countries like India. It is the leading cause of hospitalization, comprising up to 39% of all obstetric patients in developing countries. Obstructed labor is the single most important cause of maternal death and is one of the three leading causes of perinatal mortality with the case fatality rate of 87%-100%.[1] Maternal mortality ranges between 1% and 13%, and perinatal mortality between 74% and 92%. It is found to be directly or indirectly responsible for about half of all maternal deaths, affecting mainly primigravida and grand multipara. Maternal deaths occur as a result of ruptured uterus as well as genital sepsis in women having undergone cesarean section done for obstructed labor.[2]

Each year, 210 million women become pregnant, of whom 20 million experience pregnancy-related illness and 500,000 die as a result of the complications of pregnancy or childbirth.[3]In 1987, the World Health Organization (WHO) launched the Safe Motherhood Initiative, which aimed to reduce maternal morbidity and mortality by 50% by the year 2000. The initiative did not succeed, but maternal health continues to be a major focus of WHO effort.[4] The current WHO initiativeis to reduce maternal mortality to 75% of the 1990 level by 2015. If this is to be successful, the problem of obstructed labor will need to be addressed effectively.

Maternal mortality from obstructed labor is largely the result of ruptured uterus or puerperal infection, whereas perinatal mortality is mainly due to asphyxia. Significant maternal morbidity is associated with prolonged labor, since both post-partum hemorrhage and infection are more common in women with long labor.[5] Obstetric fistulas are long-term problems. Traumatic delivery affects both mother and child.

The present study was conducted to detect the presentation, management, and the various complications of obstructed labor cases in a peripheral tertiary care center, so that early intervention strategies may decrease the incidence of morbidity and mortality.

II. Materials And Methods

This retrospective study of obstructed labour was conducted from January 2019 to December 2019 in the Department of obstetrics and Gynaecology of Hazaribagh Medical College, Hazaribagh, Jharkhand. 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.

III. Results

During the one year study period, there were total of 23381 deliveries of which 402 cases were diagnosed to have obstructed labour, incidence being 1.71%.

Total Deliveries	Obstructed Labour	Percentage
8456	145	1.71%

Table 1: Magnitude of obstructed labour

Characteristics	Number	Percentage
Residence		
Rural	125	86.2
Urban	20	13.79
Antenatal Checkup		
Booked	32	22.06
Unbooked	113	77.93

Table 2: Demographic Profile

Age (years)	Number	Percentage
19-24	94	64.8
25-29	35	24.1
>30	16	11.03

Table 3: Age Distribution of patients

Maximum cases were in age group of 19-24 years (64.4%). 86.2% of the patients were from rural areas and 77.93% of the patients were unbooked. The commonest cause of obstructed labour was cephalopelvic disproportion (55.17%). Other causes were Malposition (22.06%), Malpresentation (17.9%), foetal congenital abnormality (1.38%), Myomas (0.68%), others (1.38%). 2 (1.38%) cases of previous caesarean section came in advanced stage of obstructed labour and resulted in rupture uterus.

Parity	Number	Percentage
Primigravida	106	73.10
Multigravida (<3)	23	15.86
Grandmulti gravida	16	11.03

Table 4: Parity of patients of obstructed labour

The commonest mode of delivery was caesarean section (84.13%). Instrumental deliveries were performed in 11.72% of cases. Rupture cases was present in 6 cases out of which repair was done in 4 cases and hysterectomy was done in 2 cases. The most common maternal complications were sepsis (pyrexia (15.1%), urinary tract infection (6.89%), wound infections (13.1%), abdominal distention (11.03%), post-partum haemorrhage (PPH) (9.6%).

Causes	Number	Percentage
Cephalopelvic disproportion	80	55.17
Malposition	32	22.06
Malpresentation	26	17.9
Fetal congenital anomaly	2	1.38
Myoma	1	0.68
Previous cesarean section	2	1.38
Others (non-dilation of cervix)	2	1.38

Table 5: Causes of obstructed labour

Type	Number	Percentage
Cesarean section	122	84.13
Instrumental delivery	17	11.72
Laparotomy with repair of rupture uterus	4	2.76
Subtotal hysterectomy	2	1.3

Table 6: Different modes of delivery

S.No	Complication	Number	Percentage
1	Maternal Sepsis		
2	Pyrexia	22	15.1
3	Urinary tract infection	10	6.89
4	Wound infection	51	12.8
5	Postpartum Hemorrhage	14	9.6
6	Rupture Uterus	6	4.13
7	Vesico Vaginal Fistula	2	1.37
8	Bladder Injury	2	1.37
9	Hysterectomy	2	1.37
10	Maternal Death	2	1.37
11	Broad Ligament Hematoma	2	1.37
12	Abdominal Distention	16	11.13
13	Peritonitis	2	1.37
14	Subinvolution	14	9.66
15	No Complications	30	20.69

Table 7: Maternal complications of obstructed labour

Outcome	Number	Percentage
Live births	114	78.62
Still births	31	21.37

Table 8: Fetal outcome of obstructed labour

Other complications were Rupture uterus (4.13%); vesicovaginalfistula (1.37%), bladder injury (1.37%), hysterectomy (1.37%), broad ligament hematoma (1.37%), and sub involution (9.66%). There were 2 maternal deaths due to complications associated with obstructed labour. Total live births were 114 (78.62%) and 31 (21.37%) were still births. Perinatal complications included birth asphyxia (9%), jaundice (16.5%), and septicaemia (14.48%), meconium aspiration syndrome (9.7%). There were total 66 perinatal deaths maximum being due to birth asphyxia (TABLES 1-9).

Morbidity	Number	Percentage
Birth Asphyxia	42	28.96
Septicemia	21	14.48
Meconium Aspiration Syndrome	14	9.7
Convulsions	5	3.45
Jaundice	24	16.5
Umbilical Sepsis	5	3.45
No Complications	39	23.4

Table 9: Perinatal complications of obstructed labour

IV. 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. It was higher than the incidence by Sabyasachi et al 1.64%, 1.1% by Ritu et al, 0.56% reported by Adhikari et al, 0.8% by Omele-ohonsi et al,1.27% by Dafallah et al.[6,7] The decreasing trend is a reflection of improvement in antenatal and intranatal care.[9]

In our study, common causes of obstructed labour were cephalopelvic disproportion (55.17%), Malposition (22.06%), Malpresentation (17.9%). Mostly the patients were primigravida (73.1%) and of age group 19-24 years (64.8%). The incidence of obstructed labour was higher in unbooked patients (77.93) comparable to study done by Shimelis and Fantu et al.[8] 86.2% of the patients who presented with features of obstruction were from rural areas showing lack of proper healthcare facilities.

Lower segment cesarean section was the commonest method of delivery (84.13%), followed by instrumental deliveries (11.72%). In our center destructive procedures are not encouraged. There were total 6 cases of rupture uterus out of which 4 were repaired and 2 underwent subtotal hysterectomy.

Maternal mortality in the study group was 2/145 (1.3%), lower than study by Sabyasachi et (1.60%), Adhikari et al (2.04%), Nwogu-ikojo et al (3.3%) showing the timely management of the patient in our set up. In our study common maternal complications were maternal sepsis (pyrexia (15.1%), urinary tract infection (6.89%), wound infection (13.1%) total (35.09%), abdominal distention (11.03%), Post-partum hemorrhage (9.6%), sub involution (9.66%), rupture uterus (4.13%). Vesico vaginal fistula was noted in 6 patients (1.37%).[10]

The total number of live births were 114 (78.62%) and still birth 31 (21.37%). 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 26.6%. Perinatal morbidity was commonly due to birth asphyxia (28.96%), Jaundice (16.5%), Septicemia (14.48%), Meconium aspiration syndrome (9.7%).

V. 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. Lack of well quipped secondary and tertiary care centers that are adequately staffed is also an important factor for better obstetric 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.

References

[1]. Gessessew A, Mesfin M. Obstructed labour in Adigrat zonal hospital, Tigray Region. Ethiop J Health Dev. 2003;17(3):175-80.
[2]. Dolea C, AbouZahr C. Global burden of obstructed labour in the year 2000. Evidence and Information for Policy (EIP), World Health Organization, Geneva; 2003:1-17.
[3]. Cron J. Lessons from the developing world: obstructed labor and the vesico-vaginal fistula. Medscape Gen Med. 2016;5(3):14.
[4]. Henok A, Asefa A. Prevalence of Obstructed Labour among mothers delivered at Mizan Aman general hospital, South West Euthopia. A Retrospective study. J Womens Health Care. 2015;4(5):1-4.
[5]. Adeyoe IS, Dimejesi L, Onoho R, Bartholomew O, Ezeanochie M, Kalu C. Obstructed labour South East Nigeria Revisited. A multicenter study on maternal socio demographic and clinical co relates. J Womens Health Care. 2014;3(3):160.
[6]. Indra, Usharani N, Bendigiri M. A study of clinical outcome of obstructed labor. Int J Reprod Contracep Obstet Gynaec. 2017;6(2):439-42.
[7]. Ranjana, Sinha A. Incidences, causes and feto maternal outcome of obstructed labour at tertiary health care center. Int J Reprod Contracepm Obstet Gynaec. 2017;6(7):2817- 21.
[8]. Khatun J, Khanom K. Obstructed labour: A life threatening complications. Med Today. 2017;29(1):12-4.
[9]. Shaikh SR, Memon KN, Usman G. Obstructed labour; risk factors and outcome among women delivering in a tertiary care hospital. Professional Med J. 2015;22(5):615-20.

[10]. Ngonzi J, Bebell LM, Bazira J, Fajardo Y, Nyehangane D, Boum Y, et al. Risk Factors for vaginal colonization and relationship between bacterial vaginal colonization and in-hospital outcomes in women with obstructed labor in a Ugandan Regional Referral Hospital. Int J Microbiol. 2018:1-7.

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