



A STUDY ON MATERNAL AND PERINATAL OUTCOME OF OBSTRUCTED LABOUR IN A RURAL TERTIARY CARE HEALTH CENTRE

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ABSTRACT **Background:** Obstructed labour is a major cause of maternal and perinatal morbidity and mortality in the developing countries than developed countries. Obstructed labour is one of the most important causes of perinatal morbidity and mortality with the case fatality rate of 80-100% in rural areas of low resources countries. **Methods:** A study of 80 patients with prolonged labour and with inclusion and exclusion criteria studied in the study subjects. **Results:** In this study most common cause of obstructed labour is CPD (57%). Out of the 80 cases studied the still birth rate was 21% (16 cases). This was due to delay in the referral of patients from peripheral areas to higher centres. **Conclusions:** Our rural health centres need appointment of qualified health personnel and well trained medical staff, who can recognize timely any deviation from normal labour and recognize any malpresentation and malposition and then refer such cases to higher centers.

KEYWORDS :

INTRODUCTION

Obstructed labour is seen when in spite of good uterine contractions there is progressive descent of the presenting part is arrested due to mechanical obstruction.¹ The condition is due to a mismatch between the fetus size and the maternal pelvis.² The mismatch may be in any position of fetus, due to the vertex is in the occipito anterior position or relative disproportion due to deflexion and malposition.³

It is the condition where further progression of labor is not possible without any assistance.^{4,5} Labour is considered obstructed when the presenting part of the fetus cannot descent down into the birth canal, in spite of good uterine contractions.⁶ It is more common in humans than in primates because the birth canal in humans is not as straight and wide as in primates.⁷ Obstructed labour (OL) is a major cause of both maternal and perinatal morbidity and mortality. The obstruction can only be relieved by means of any operative delivery, either

caesarean section or other instrumental vaginal delivery.⁶ Obstructed labour ranked 41st in GBD 1990, representing 0.5% of the burden of all conditions and 22% of all maternal conditions. It was estimated to be the most disabling of all maternal conditions.⁶ In the obstructed labour for alleviation preferred method is caesarian section nowadays. Destructive procedures are almost obsolete now.

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. Which was further extended by the year of 2015 with the initiative is to reduce maternal mortality to 75% of the 1990 level by 2015.⁹ Obstructed labour is more common in developing countries than developed countries.¹⁰ Obstructed labour is the single most important cause of maternal death and is one of the leading causes of perinatal mortality with the case fatality rate of 80-100%.⁷ Obstructed labour is seen in the referral hospitals of India and low income countries.¹¹

It is found to be directly or indirectly responsible that affecting mainly Primigravida and grand multipara.¹³ Reports from India, Nigeria, Ghana, Ethiopia and Bangladesh indicate that up to 5% of cases of uterine rupture are seen with unscarred uterus and obstructed labour is one of the top 5 causes of maternal mortality.

Obstructed labour is an absolute condition but not a relative condition. In recent years, increased attention has been focused on the disparity between developed and developing countries in maternal and perinatal mortality rate. The term social obstetrics has drawn the attention of obstetricians in developing countries especially in rural areas where ignorance, non-availability of transport and medical facilities are the important causes. In our country where >60% of the people reside in rural areas where obstetric care is quite deplorable. Most of deliveries

are still conducted by untrained personnel in rural areas. Poor quality and difficult access to obstetric care are other factors in producing higher obstetric morbidity and mortality.

Most of the maternal deaths are found in unbooked cases from rural areas. The role of destructive operations in obstructed labour cases with dead or moribund foetuses has been found to be superior to caesarean sections in many studies but now a days destructive procedures are almost obsolete. Improved quality of judgment and skilled obstetric surgery may be superior even in adverse condition. In the other hand, if the condition of the patient is very poor, even improved ancillary aids and good environment cannot improve the result significantly.

METHODS

The study was conducted at the Department of Obstetrics and Gynecology, tertiary care hospital in rural area with following :

Inclusion criteria

Cephalo-pelvic disproportion	Contracted pelvis
Deep transverse arrest	
Compound presentation	
Occipito-posterior position	Face presentation

Exclusion criteria

Sample size: 80

Investigations

CBC, Blood grouping and Rh grouping Blood urea, serum creatinine Urine for protein, Sugar and ketone High vaginal swab for culture and sensitivity If sign and symptoms suggest of septicemia blood culture and sensitivity Planned urgent delivery mainly by caesarean or vaginal delivery and these cases were followed until discharge from the hospital for fetal and maternal outcome

RESULTS

The incidence of obstructed labour is more in Primigravida. In present study 69% of patients were primigravidas.

Table 1: Distribution Of Study Subjects Based On Booking Status.

Booking status	Frequency	Percentage
Booked	32	40.0
Unbooked	48	60.0
Total	80	100.0

In this study it was found that the major cause of obstructed labour was

Cephalo-pelvic disproportion comprising of 57% of all cases. The second common cause being contracted pelvis. In this study it was found that 5% of the cases had Bandl's ring at the time of admission.

In the current study 99% of the cases had abdominal delivery and 1% had vaginal delivery. The rate of Caesarean section was highest in this study. Treatment was aimed to relieving the obstruction without any delay in view of decreasing the morbidity and mortality.

In the study conducted, major operative procedure was LSCS. Out of 80 cases there were 5 cases of rupture. Subtotal hysterectomy was done in 2 cases. In the remaining 3 cases repair of the rupture with sterilization was done.

Table 2: Distribution of study subjects based on gravida.

Gravida	Frequency	Percentage
1	55	69.0
2	8	10.50
3	10	12.50
4	7	8.0
Total	80	100.0

- Patient with previous caesarian section
- Patient with known cardiac disease

Table 3: Distribution of study subjects based on duration of labour

Duration of labour	Frequency	Primigravida	Percentage
18 – 24 hours	60	45	75.0
> 24 hours	20	10	25.0
Total	80	55	100.0

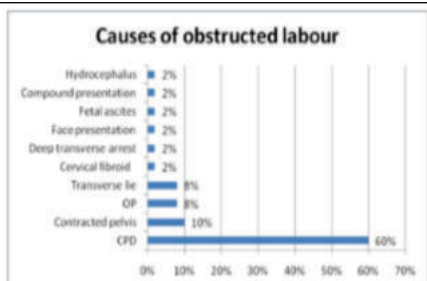


Figure 1: Causes of obstructed labour.

Table 4: Distribution of study subjects based on presence of Bandl's ring

Constriction ring	Frequency	Percentage
Absent	76	95.0
Present	4	5.0
Total	80	100.0

The most common complication following obstructed labour was anemia and post-partum hemorrhage which constituted 14 cases. The next common complications puerperal sepsis, paralytic ileus and wound dehiscence each accounts for 10%.

Table 5: Mode of delivery.

Delivery	Abdominal	Vaginal	Total
Frequency	79	1	80
Percent	99%	1%	100%

- CRANITOMY
- LAPAROTOMY+Sub
- Total Hysterectomy
- LAPAROTOMY+REPAI
- ROF RUPTURE
- LSCS

Incidence of maternal mortality

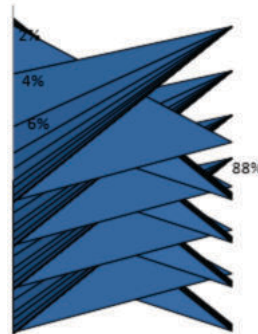
The maternal mortality in this study was 2%. The death was due to severe septicemic condition. Factors that influencing maternal mortality was unbooked cases from rural areas, extremes of age in reproductive period, high parity and low socio economic status.

Perinatal outcome

Obstructed labour is one of the most important causes of Preventable perinatal morbidity and mortality. The perinatal mortality was over

23% in Bhattacharya et al and if the neonate survives, the morbidity is mostly due to anoxia, intracranial haemorrhage and septicemia.

Figure 2: Type of surgery.



Complications of obstructed labour

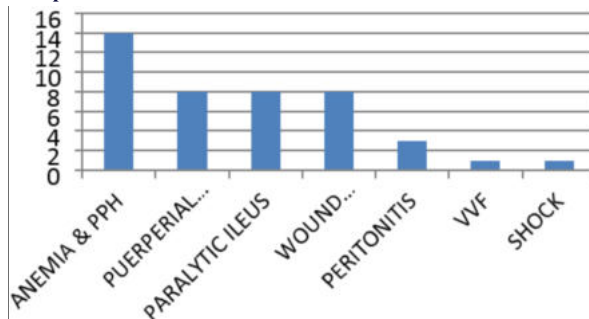


Figure 3: Complications of obstructed labour.

Out of the 80 cases studied the still birth rate was 21% (16 cases). This was due to delay in the referral of the patients from peripheral centers

Table 6: Distribution based on perinatal outcome.

Perinatal outcome	Frequency	Percentage
Live	64	79.0
Still born	16	21.0
Total	80	100.0

DISCUSSION

According to Rao B, 5-8% of hospital deliveries in India are emergency admission.14 Both maternal morbidity and neonatal mortality were observed mostly in these cases.

This condition can be improved by giving good antenatal check-up and health education to all these patients at their door steps by trained health care professionals in rural population. Availability of specialised professionals at the level of PHCs can improve the situation

The incidence of obstructed labour is more in Primigravida than multigravida. In our patients were study 69% of primigravidas.

The high incidence is due to delayed recognition of obstruction due to disproportion between mother and fetus. Risk of PNM is also high in Primigravida with obstructed labour. In a study conducted by Ara A, obstructed labour was more common among Primigravida involving 40.8% of the cases.15 In a study by Shugufta et al the incidence of primigravida was 46.15% which is comparable to our study.16 In the current study it was found that the major cause of obstructed labour was CPD comprising of 57% of cases.

The second common cause being contracted pelvis. Comparing my study with other studies, the cause for obstruction was CPD in 87.18% in a study by Shagufta.16 A study by Ara A showed the leading cause for obstruction was CPD comprising 47.5% of all the cases.15 The perinatal mortality shows a declining trend. In our study the perinatal mortality rate was 40%.

Table 7: Comparing Our Study With The Perinatal Mortality Of The Other Studies.

Locality	Year	PNM	rate
Jayaram K	Guntur	1993	76.6%

Adhikari et al	Kolkata	2005	43.2%
Bhattachary	Indore	2007	23.21%

CONCLUSION

Obstructed labour continues to be a major cause of maternal and perinatal morbidity and mortality as an important problem in our country. It is an preventable condition. The incidence of obstructed labour can be brought down by improving our health care s y s t e m , especially at the peripheral health centres and social stigmas.

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