



## MATERNAL OUTCOME OF PREGNANT WOMEN WITH FETAL MALPRESENTATION

### Obstetrics & Gynaecology

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### ABSTRACT

**Introduction:** Malpresentations are estimated to occur in 5% of all term deliveries and poses significant challenges for both the mother and infant. This study aims to study clinical profile, associated etiological factors and maternal outcome in pregnancy with malpresentation. **Methodology:** This prospective observational study was done at a tertiary health care centre in South Gujarat with study period from January 2024 to September 2024. All consenting women with fetal malpresentation of gestational age of 28 weeks and above admitted in labour room of a tertiary health care centre in South Gujarat were enrolled in this study. **Results:** Majority of patients in this study had breech presentation (82.14%). The most common etiological factors associated with malpresentation were multiparity (52.98%), prematurity (25.6%), and liquor abnormalities (18.45%). 91.07% of patients underwent lower segment caesarean section (LSCS), while only 8.93% had vaginal deliveries. Antepartum haemorrhage was seen in 1.79% while postpartum haemorrhage was seen in 2.98%. There were no maternal deaths reported. The average number of days of hospital stay for mother is 5.6 days which is higher than average for general population (3.1 days). **Conclusion:** Fetal malpresentation remains a critical obstetric challenge. Early identification, comprehensive antenatal evaluation, and timely management help to reduce maternal morbidity and mortality.

### KEYWORDS

Malpresentation, Lower segment Caesarean section, maternal outcome

#### INTRODUCTION

Fetal malpresentation refers to any presentation other than vertex and includes brow, face, breech, shoulder and compound presentations. Malpresentations are estimated to occur in 5% of all term deliveries and are associated with increased maternal morbidity and mortality.<sup>1</sup> Risk factors include prematurity, multiple gestation, multiparity, liquor abnormalities (oligohydramnios/ polyhydramnios), congenital anomalies of uterus, placenta praevia, cephalopelvic disproportions, congenital anomalies of fetus and history of previous surgeries.<sup>2</sup>

Malpresentation poses significant challenges for both the mother and infant. Maternal complications include extensive perineal tear, cervical tear, prelabour rupture of membranes, cord prolapse, increased risk of instrumental delivery, caesarean section, obstructed labour, postpartum haemorrhage and rupture uterus, increased morbidity and mortality.<sup>1-3</sup>

Early diagnosis and timely management are crucial for planning appropriate delivery methods as it can prevent complications and reduce maternal morbidity and mortality. Clinical examination, confirmed by ultrasonography, remains the cornerstone of diagnosis. Management of abnormal presentation is a continuing challenge to an obstetrician. Delivery in malpresentation should be planned at centres that have expertise in conducting vaginal delivery in malpresentation with good intrapartum monitoring and with facilities for caesarean section for the better fetomaternal outcome.

This study explores the incidence, identify etiological factors, modes of delivery, maternal outcomes, and complications associated with fetal malpresentation.

#### METHODOLOGY

This prospective observational study was conducted in a tertiary health care centre in South Gujarat enrolling 168 subjects fulfilling inclusion criteria of pregnant women of gestational age 28 weeks and above, with fetal malpresentation, over a period of 1 year from January 2024 to December 2024.

#### Inclusion Criteria:

All consenting pregnant women with fetal malpresentation with gestational age of 28 weeks and above admitted in labour room of a tertiary health care centre in South Gujarat.

#### Exclusion Criteria:

1. Non consenting women with fetal malpresentation.
2. Gestational age of less than 28 weeks

The study was done with a pre-designed proforma. For every case, information like age, residence, booking status, obstetric history, past history and sonography findings were recorded. Physical and obstetric examination carried out on admission, mode of delivery, intraoperative findings and postnatal/ postoperative complications were noted. All cases were followed up until discharge from the hospital.

#### Ethical Approval:

Ethical approval was granted by Human Resource Research Committee, confidentiality was maintained.

#### RESULTS

In this study, breech presentation was the most common malpresentation encountered (82.14%), followed by transverse lie (8.93%), brow (2.38%), compound presentation (2.38%), cord (2.38%) and face presentation (1.79%). Among 138 breech presentations, frank breech was the most common subtype (73.19%), followed by complete (20.29%) and footling breech (6.52%). Majority (91.07%) were between age group of 20-35 years. 70.24% were booked and 61.9% were from urban area.

More cases were seen in multigravida (52.98%) than primigravida (47.02%). Distribution according to gestational age on admission showed majority of patients (72.62%) presented at term gestation (>37 weeks).

**Table 1: Demographic Characteristics**

Demographic characteristics	No. of patients	Percentage
Types of presentation		
Breech	138	82.14%
Face	3	1.79%
Brow	4	2.38%
Compound	4	2.38%
Transverse	15	8.93%
Cord	4	2.38%
Types of breech		
Complete	28	20.29%
Frank	101	73.19%
Footling	9	6.52%

Age group in years		
<20 years	7	4.17%
20-35 years	153	91.07%
>35 years	8	4.76%
Type of registration		
Booked	118	70.24%
Referred	29	17.26%
Emergency	21	12.50%
Type of residence		
Rural	64	38.10%
Urban	104	61.90%
Obstetric history		
Primigravida	79	47.02%
Multigravida	89	52.98 %
Gestational age on admission		
28-34weeks	24	14.29%
34-37wks	22	13.10%
>37weeks	122	72.62%

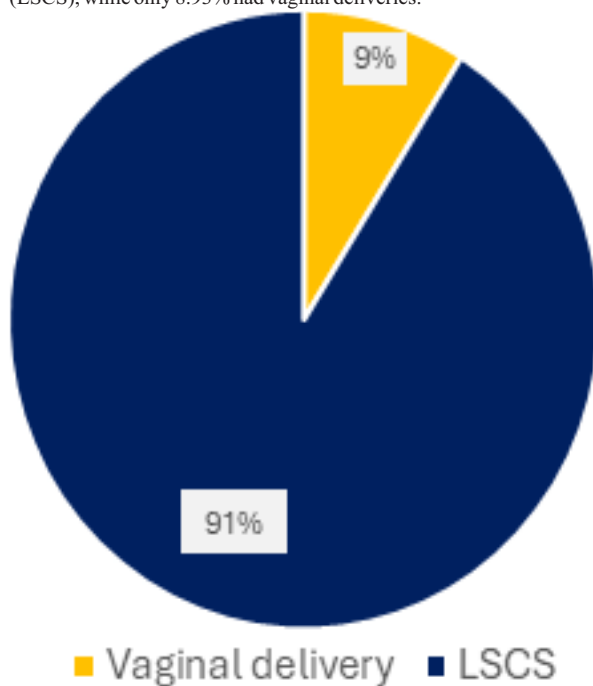
Liquor abnormalities were present in 18.46% of cases with oligohydramnios seen in 14.29% and polyhydramnios in 4.17% of the total cases. Uterine anomalies were found in 5.95% of cases, with arcuate uterus being the most common (40%), followed by bicornuate (30%), unicornuate (20%), and septate uterus (10%).

Most common etiological factors identified were multiparity (52.98%), prematurity (27.38%) and liquor abnormalities (18.45%). Other factors included previous Caesarean section (11.9%), IUGR (5.36%), uterine anomalies (5.95%), multiple gestation (7.14%), cephalopelvic disproportion (2.98%), placenta praevia (1.79%) and congenital anomaly in fetus (1.19%).

**Table 2: Etiological Factors**

Etiological factors	No. of patients	Percentage
Congenital anomalies of fetus	2	1.19%
Placenta praevia	3	1.79%
Cephalopelvic disproportion	5	2.98%
Intrauterine growth restriction (IUGR)	9	5.36%
Uterine anomalies	10	5.95%
Multiple gestation	12	7.14%
Previous LSCS/ uterine surgery	20	11.90%
Liquor abnormalities	31	18.45%
Prematurity	46	27.38%
Multiparity	89	52.98%

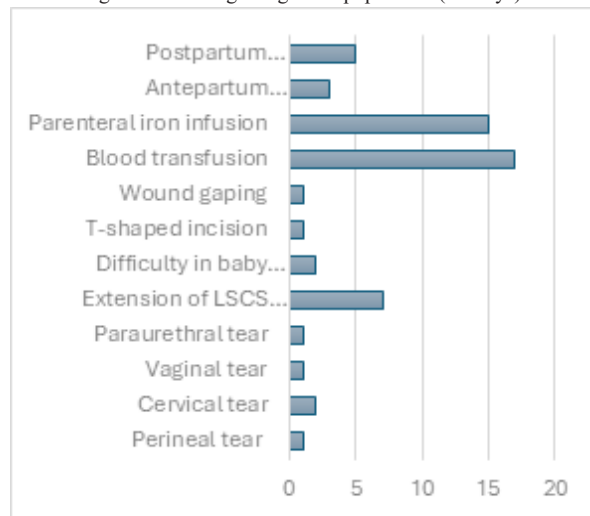
Majority (91.07%) underwent lower segment caesarean section (LSCS), while only 8.93% had vaginal deliveries.



**Figure 1: Mode Of Delivery**

Maternal complications included 3rd or 4th degree perineal tear (0.60%), cervical tear (1.19%), vaginal tear (0.60%), and paraurethral tear (0.60%). Among LSCS-related complications, extension of the uterine incision was seen in 4.17%, difficulty in delivering the baby was documented in 1.19% of cases, and T-shaped uterine incisions were required in 0.60% of cases and wound gaping was noted in 0.60%. Antepartum haemorrhage was seen in 1.79% while postpartum haemorrhage was seen in 2.98%. No cases of uterine rupture or obstructed labor were reported. There were no maternal deaths reported. Blood transfusion was required in 10.12% cases and 8.93% required parenteral iron infusion.

The average number of days of hospital stay for mother is 5.6 days which is higher than average for general population (3.1 days).



**Figure 2: Maternal Complications**

**DISCUSSION**

This study is an observational study conducted among 168 pregnant women with fetal malpresentation of gestational age more than 28 weeks admitted in labour room of a tertiary health care centre in South Gujarat. Majority of the patients in this study had breech presentation which was 82.14%. This is similar to study done by Shruthi et al (2020) where breech was the most common type of malpresentation (79.56%).<sup>1</sup> Among breech presentation, frank breech was the most common type (73.19%). Transverse lie was the second most common type of malpresentation after breech with incidence of 8.93%.

The most common etiological factors associated with malpresentation were multiparity (52.98%), prematurity (25.6%), and liquor abnormalities (18.45%). Other factors included previous Caesarean section (11.9%), Intrauterine growth restriction (5.3%), uterine anomalies (5.9%), multiple gestation (7.14%), cephalopelvic disproportion (2.98%), placenta praevia (1.79%) and congenital anomaly of fetus (1.19%). This is similar to study done by Shruthi et al (2020)<sup>1</sup> where incidence of prematurity is 25.6%, multiple gestation accounted for 6.5%, cephalopelvic disproportion seen in 2.35%, placenta praevia reported in 1.91% cases and congenital anomaly of fetus in 1.32%. In another study done by Rana et al, the incidence of prematurity was 28.48%.<sup>3</sup>

In this study, 91.07% of cases delivered by lower segment caesarean section (LSCS), while only 8.93% had vaginal deliveries. All cases of brow presentation, cord presentation, compound presentation and transverse lie were delivered by Caesarean section.

This study also reveals a spectrum of maternal complications associated with malpresentations. Perineal trauma, although infrequent, was observed in the form of 3rd or 4th degree perineal tear (0.60%), cervical tear (1.19%), vaginal tear (0.60%), and paraurethral tear (0.60%). Among LSCS-related complications, extension of the uterine incision was the most frequent (4.17%). Difficulty in delivering the baby was documented in 1.19% of cases, and T-shaped uterine incisions were required in 0.60% of cases to facilitate delivery. Wound gaping was noted in 0.60%. Antepartum haemorrhage was seen in 1.79% while postpartum haemorrhage was seen in 2.98%. No cases of uterine rupture or obstructed labor were reported. There were no

maternal deaths during this study. Blood transfusion was required in 10.12% cases and 8.93% required parenteral iron infusion.

The average number of days of hospital stay for mother is 5.6 days which is higher than average for general population (3.1 days). This indicates that there is increase in maternal morbidity with prolonged duration of hospital stay of mother due to increased rate of lower segment Caesarean section in case of fetal malpresentation.

### CONCLUSION

Fetal malpresentation is a commonly encountered obstetric complication. Among the 168 cases studied, breech presentation was the most common with frank breech constituting the majority of these. Prematurity, multiparity, and liquor abnormalities were the leading etiological factors for fetal malpresentation. Caesarean section was the predominant mode of delivery which led to increase stay in hospital for mother. This is in contrast to the general population where vaginal delivery remains more common. However, despite the high surgical delivery rate, maternal outcomes were favourable.

Fetal malpresentation remains a critical obstetric challenge. Early identification, comprehensive antenatal evaluation, and timely management help to reduce maternal morbidity and mortality.

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