

**MALPRESENTATION- INCIDENCE AND CAUSES**

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**ABSTRACT****BACKGROUND**

Malpresentation is defined as when the presenting part of foetus is other than normal vertex of foetal head. It includes breech, face, brow, shoulder, compound and cord presentations. In modern obstetrics, the incidence of malpresentation has fallen due to reducing parity. Among malpresentations, breech presentation is the most common.

The aim of this study is to study the incidence, aetiological factors and foetomaternal outcome.

**MATERIALS AND METHODS**

A retrospective study of malpresentation was conducted in Obstetrics and Gynaecology Department for a period of 5 years from 1st January 2012 to 31st December 2016 at MGMMCH, Jamshedpur, Jharkhand. The incidence, aetiological factors and foetomaternal outcome were discussed.

**RESULTS**

There were 28,431 deliveries conducted with 1099 malpresentations with an incidence of 3.87%. Out of these, 1099 (3.87%) patients presented with malpresentation. Commonest malpresentation was breech (2.85%) followed by transverse lie (0.60%), face presentation (0.23%), compound presentation (0.08%), cord presentation (0.07%) and brow presentation (0.04%). Most of these are unbooked cases, 692 (62.97%). In the present study, 45.38% occurred in primigravidae. Breech was the most common malpresentation, 334 (41.18%) cases were delivered by vaginal route. In the present study, 34 (3.09%) cases with malpresentations delivered anomalous babies. Prematurity was the aetiological factor accounting to 7.92% of the cases, 25.93% accounted to multiparity, 2.47% presented with uterine anomalies and 4.64% contracted pelvis, 3.10% presented with disorders of amniotic fluid volume and 1.09% cases had placenta previa and 6.39% accounting to twins. 15.37% babies were still birth associated with malpresentation and neonatal death was seen in 7.10%. The commonest cause of still birth is prematurity, transverse lie with hand prolapse.

**CONCLUSION**

Malpresentation requires high vigilance and prompt management to reduce perinatal mortality and maternal morbidity.

**KEYWORDS**

Malpresentations, Breech, Transverse Lie.

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**BACKGROUND**

Malpresentation is defined as when the presenting part of foetus is other than normal vertex of foetal head. It includes breech, face, brow, shoulder, compound and cord presentations. In vast majority of deliveries near term, the foetus presents by the head with the best fit into the lower pelvis. More than 95% of foetuses at term present in labour by the vertex. In modern obstetrics, the incidence of malpresentations has fallen due to reducing parity. Among malpresentations, breech presentation is the most common followed by transverse lie with shoulder presentation and face presentation, others like brow, compound and cord presentations are less common. Congenital anomalies and perinatal mortality are increased with malpresentations.

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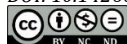
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**MATERIALS AND METHODS**

A retrospective study of malpresentation was conducted in Obstetrics and Gynaecology Department for a period of 5 years from 1st January 2012 to 31st December 2016 at MGMMCH, Jamshedpur, Jharkhand. There were 28,431 deliveries conducted with 1099 malpresentations with an incidence of 3.87%. Different variables such as parity, booked-unbooked case, maternal risk factors, type of malpresentation, mode of delivery, foetal anomalies associated with malpresentation were analysed and reviewed to see its association with maternal and perinatal outcome. All history sheets, labour room records and operative record were scrutinised and relevant information was extracted.

**RESULTS**

Total numbers of deliveries conducted in Obstetrics and Gynaecology Department for a period of 5 years from 1st January 2012 to 31st December 2016 at MGMMCH, Jamshedpur, Jharkhand were 28,431. Out of these 1099 (3.87%) patients presented with malpresentation. Breech presentation is the commonest 811 (73.79%), transverse lie with shoulder presentation are 170 (15.47%), face presentation are 64 (5.82%), compound presentations are 23

(2.09%), cord presentations are 20 (1.82%) and brow presentation are 11 (1.00%).

| Presentation | No. of Cases (n=28431) | Prevalence (100%) |
|--------------|------------------------|-------------------|
| Vertex       | 27332                  | 96.13%            |
| Non-Vertex   | 1099                   | 3.87%             |

**Table 1. Incidence of Malpresentation**

The incidence of total malpresentations is 3.87% among 28,431 deliveries conducted.

| Type       | No. of Cases (n=28431) | Prevalence (3.87%) |
|------------|------------------------|--------------------|
| Breech     | 811                    | 2.85%              |
| Transverse | 170                    | 0.60%              |
| Face       | 64                     | 0.23%              |
| Compound   | 23                     | 0.08%              |
| Cord       | 20                     | 0.07%              |
| Brow       | 11                     | 0.04%              |

**Table 2. Distribution of Malpresentation**

Commonest malpresentation was breech (2.85%) followed by transverse lie (0.60%), face presentation (0.23%), compound presentation (0.08%), cord presentation (0.07%) and brow presentation (0.04%).

| Cases    | No. of Cases (n=1099) | Prevalence (100%) |
|----------|-----------------------|-------------------|
| Booked   | 407                   | 37.03%            |
| Unbooked | 692                   | 62.97%            |

**Table 3. Booked-Unbooked Cases**

Majority of the cases (62.97%) in our study were not booked in the hospital for antenatal care.

| Parity    | No. of Cases (n=1029) | Prevalence (100%) |
|-----------|-----------------------|-------------------|
| 1         | 467                   | 45.38%            |
| 2         | 277                   | 26.92%            |
| 3         | 173                   | 16.81%            |
| 4         | 85                    | 08.26%            |
| 5 or More | 27                    | 02.62%            |

**Table 4. Distribution of Cases in Relation to Parity**

Most of the foetal malpresentations (45.38%) occurred in primi para followed by 26.92% in para 2.

| Mode of Delivery            | No. of Cases (n=811) | Prevalence (100%) |
|-----------------------------|----------------------|-------------------|
| Spontaneous breech delivery | 97                   | 11.96%            |
| Assisted breech delivery    | 237                  | 29.22%            |
| Caesarean section           | 477                  | 58.82%            |

**Table 5. Mode of Delivery in Breech Presentation**

In the present study breech was the most common malpresentation, 334 (41.18%) cases were delivered by vaginal route. Among them 29.22% had assisted breech delivery, 11.96% had spontaneous breech delivery. Majority

of breech presentations (58.82%) were delivered by caesarean section.

| Risk Factors          | No. of Cases (n=1099) | Prevalence (100%) |
|-----------------------|-----------------------|-------------------|
| Prematurity           | 87                    | 07.92%            |
| Twins                 | 70                    | 06.39%            |
| Polyhydramnios        | 06                    | 00.55%            |
| Oligohydramnios       | 28                    | 02.55%            |
| Placenta previa       | 12                    | 01.09%            |
| Uterine malformations | 27                    | 02.47%            |
| Foetal anomalies      | 34                    | 03.09%            |
| Multiparity           | 285                   | 25.93%            |
| Contracted pelvis     | 51                    | 04.64%            |
| Unknown causes        | 499                   | 45.40%            |

**Table 6. Maternal Risk Factors**

In the present study prematurity was the aetiological factor, accounting to 7.92% of the cases, 25.93% accounted to multiparity, 2.47% presented with uterine anomalies and 4.64% contracted pelvis, 3.10% presented with disorders of amniotic fluid volume and 1.09% cases had placenta previa and 6.39% accounting to twins.

| Foetal Anomaly | No. of Cases (n=1099) |
|----------------|-----------------------|
| Hydrocephalus  | 10                    |
| Anencephaly    | 11                    |
| Gastroschisis  | 06                    |
| CTEV           | 07                    |
| No Anomaly     | 1065                  |

**Table 7. Foetal Anomalies associated with Malpresentation**

Majority of about 1065 cases had no anomalies associated with malpresentation. In the present study, 34 cases with malpresentations delivered anomalous babies. Among them 10 babies had hydrocephalus, 7 were born with congenital talipes equino varus, 11 were anencephaly babies and 6 were gastroschisis.

| Babies Status | No. (n=1099) | Prevalence (100%) |
|---------------|--------------|-------------------|
| Alive         | 852          | 77.53%            |
| N.N.D.        | 78           | 07.10%            |
| Still Birth   | 169          | 15.37%            |

**Table 8. Status of Babies associated with Malpresentation**

In the present study, 15.37% babies were still birth associated with malpresentation, neonatal death was seen in 7.10%.

**DISCUSSION**

Identification of malpresentations and their aetiological factors is of vital importance to reduce perinatal morbidity and mortality. In the present study, 1099 cases of malpresentations were identified among 28,431 deliveries in MGMCH Jamshedpur, Jharkhand. According to 11<sup>th</sup> edition of Munro Kerr’s operative obstetrics, incidence of breech at term is 3% - 4%, face presentation is 1 in 500 i.e. 0.2%, brow is 1 in 1000 i.e. 0.1%, transverse lie is 1 in 500 births i.e. 0.2%.<sup>1</sup> In the present study 2.85% accounted to breech presentation, 0.60% of cases were transverse lie, 0.23% were face presentation, brow accounted to 0.04% of the cases,

0.08% were compound presentation and 0.07% were cord presentation. This was similar to study conducted by Noor et al.<sup>2</sup>

In this study, 62.97% were unbooked cases, which was similar to other studies. Vijayalakshmi et al reported 65 were unbooked cases<sup>3</sup> and Noor et al reported 276 unbooked cases.<sup>2</sup> In the present study, 45.38% occurred in primigravidae. Noor et al showed 25.17% of the cases were in primigravidae and Vijayalakshmi et al reported 75% of the cases were in multipara.

In the present study breech was the most common malpresentation, 334 (41.18%) cases were delivered by vaginal route. Among them 29.22% had assisted breech delivery and 11.96% had spontaneous breech delivery. This report was similar to Noor et al who reported assisted breech delivery in 65.4%, spontaneous breech delivery in 20.9% and breech extraction in 5.9%.<sup>2</sup>

In the present study face presentation accounted to 5.82% cases of malpresentation, of which 74.7% were delivered by caesarean section. Benedetti TJ et al reported caesarean section in 50% of the cases. Noor et al reported 33.3% underwent caesarean section.<sup>4</sup>

In the present study, 34 cases with malpresentations delivered anomalous babies. Among them 10 babies had hydrocephalus, 7 were born with congenital talipes equino varus, 11 were anencephaly babies and 6 were gastroschisis. Similar observations were made in other studies. Noor et al reported 8 cases with malpresentations, among them 5 had hydrocephalus, 3 presented with clubfoot, anencephaly and sacrococcygeal teratoma.<sup>2</sup>

In the present study, prematurity was the aetiological factor accounting to 7.92% of the cases, 25.93% accounted to multiparity, 2.47% presented with uterine anomalies and 4.64% contracted pelvis, 3.10% presented with disorders of

amniotic fluid volume and 1.09% cases had placenta previa, 6.39% accounting to twins. Similar observations were made in other studies; Vijayalakshmi et al reported multiparity as the most common aetiological factor (75 cases), 10 cases had uterine anomalies, 7 presented with placenta previa, 3 cases had contracted pelvis and 3 had twin gestation and in 2 cases was not known.<sup>3</sup>

In the present study, 15.37% babies were still birth associated with malpresentation and neonatal death was seen in 7.10%.

#### CONCLUSION

Management of abnormal presentation is a continuing challenge to the obstetrician. Education about diagnosis of malpresentation and identification of aetiological factors should be imparted to health care personnel to enable early referral to higher centres for specialist services. Delivery in malpresentations should be planned at centres which have expertise in conducting vaginal delivery in malpresentations with good intrapartum monitoring and with facilities for caesarean section for better foetomaternal outcome.

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