STUDY OF FOETAL MALPRESENTATIONS
K. V. S. M. Sandhya Devi¹, P. Vijaya Sheela², G. Anitha³

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ABSTRACT: Malpresentation of fetus influences the fetal and maternal outcome. AIM: To study the incidence, etiological factors and fetomaternal outcome. An observational study was conducted at King George hospital during a period of one year (Jan – Dec 2014.) RESULT: There were 5704 deliveries conducted during the period with 278 malpresentations, incidence being 4.87%. Breech is the most common presentation followed by transverse lie. CONCLUSION: Malpresentation requires high vigilance and prompt management to reduce perinatal mortality and maternal morbidity.

KEYWORDS: Malpresentations, Breech, Transverse lie.

INTRODUCTION: Malpresentation is defined as, when the presenting part of fetus is other than normal vertex of fetal head. It includes breech, face, brow, shoulder, compound and cord presentations.(1) 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.

AIM: To study the incidence of malpresentations, etiological factors and fetomaternal outcome associated with malpresentations.

METHODODOLOGY: A retrospective observational study was conducted for a period of one year [January 1st – December 31st, 2014] in King George Hospital, a tertiary care hospital in Visakhapatnam, Andhra Pradesh.

OBSERVATIONS AND RESULTS: There were 5704 deliveries conducted with 278 malpresentations with an incidence of 4.87%. Out of 278 malpresentations, breech presentation is the commonest 236[84.89%], transverse lie with shoulder presentation are 14[5.04%], face presentation are 12[4.36%], brow presentation are 4[1.44%], compound and cord presentations are each of 6[2.16%] cases. Most of these are unbooked cases 170[61.15%]. Perinatal mortality is high 48[17.2%]. Commonest cause of still birth is prematurity, transverse lie with hand prolapse

| Presentation | No. of cases | Percentage |
|--------------|--------------|------------|
| Vertex       | 5426         | 95.13%     |
| Non vertex   | 278          | 4.87%      |
| Total        | 5704         | 100%       |

Table 1: Incidence of malpresentations
The incidence of total malpresentations is 4.87% among 5704 deliveries conducted.

| Type                | No: of cases | Percentage |
|---------------------|--------------|------------|
| Breech              | 236          | 84.89%     |
| Face                | 12           | 4.36%      |
| Brow                | 04           | 1.44%      |
| Transverse lie      | 14           | 5.04%      |
| Compound presentation | 06       | 2.16%      |
| Cord presentation   | 06           | 2.16%      |
| **Total**           | **278**      | **100%**   |

Table 2: Distribution of malpresentations

Of the total malpresentations, breech accounts for 84.89%. Transverse lie accounts for 5.04%, face presentation for 4.36%. The least common malpresentation is brow which forms 1.44% of the total malpresentations.

| Maternal Age Group | No. of cases | Percentage |
|--------------------|--------------|------------|
| <20 years          | 54           | 19.42%     |
| 21-25 years        | 170          | 61.15%     |
| 26-30 years        | 36           | 12.94%     |
| >30 years          | 18           | 6.47%      |
| **Total**          | **278**      | **100%**   |

Table 3: Malpresentations in relation to age

Most of the fetal malpresentations occur in the maternal age group of 21–25 years [61.15%], as the total number of pregnancies is also more in this age group.

| CASES   | No. of cases | percentage |
|---------|--------------|------------|
| Booked  | 108          | 38.85%     |
| Unbooked| 170          | 61.15%     |
| **Total** | **278**          | **100%**   |

Table 4: Booked – Unbooked cases

Majority of the cases (61.15%) in our study were not booked in the hospital for antenatal care.

| Parity | No. of cases | Percentage |
|--------|--------------|------------|
| 1      | 152          | 54.67%     |
| 2      | 96           | 34.53%     |
| 3      | 20           | 7.19%      |
| 4      | 08           | 3.00%      |
| 5      | 02           | 0.82%      |
| **Total** | **278**          | **100%**   |

Table 5: Distribution of cases in relation to parity
Most of the fetal malpresentations 54.67% occurred in primi para followed by 34.53% in para 2.

| Gestational age | No: of cases | Percentage |
|-----------------|--------------|------------|
| 28-32wks        | 24           | 8.6%       |
| 33-37wks        | 32           | 11.5%      |
| >37wks          | 222          | 79.9%      |
| **Total**       | **278**      | **100%**   |

Table 6: Distribution of cases in relation to gestational age

Most of the fetal malpresentations, 79.9% were at term gestation >37 weeks. The incidence is only 8.6% at 28-32 weeks and 11.5% at 33-37 weeks of gestation.

| Mode Of Delivery       | No. of cases | Percentage |
|------------------------|--------------|------------|
| Spontaneous Breech delivery | 24           | 10.5%      |
| Assisted breech delivery | 34           | 14.5%      |
| Caesarean section      | 178          | 75.0%      |
| **Total**              | **236**      | **100%**   |

Table 6: Mode of delivery in breech presentation

Majority of breech presentations were delivered by caesarean section and 25% were delivered by vaginal route.

| Mode Of Delivery       | No. of cases | Percentage |
|------------------------|--------------|------------|
| Vaginal delivery       | 04           | 33.3%      |
| Caesarean section      | 08           | 66.7%      |
| **Total**              | **12**       | **100%**   |

Table 7: Mode of delivery in face presentation

In face presentation, about 66.7% cases are delivered through caesarean section, whereas 33.3% had vaginal delivery.

| Foetal anomaly         | No. of cases |
|------------------------|--------------|
| Hydrocephalus          | 05           |
| Anencephaly            | 03           |
| Gastrochisis           | 02           |
| Ambiguous genitalia    | 02           |
| CTEV(congenital talipesequinovarus) | 06 |
| No anomaly             | 260          |

Table 8: Fetal anomalies associated with malpresentation
Majority of about 260 cases had no anomalies associated with malpresentation. Of the anomalous babies born out of breech presentation, 6 had Congenital Talipes Equino Varus, 5 had hydrocephalous, 3 had anencephaly. Gastroschisis and ambiguous genitalia were seen in 2 each.

| Risk Factors                | No. of Cases | Percentage |
|-----------------------------|--------------|------------|
| Polyhydramnios              | 06           | 2.1%       |
| Oligohydramnios             | 30           | 10.4%      |
| Placenta previa             | 04           | 1.4%       |
| Uterine malformations       | 08           | 2.8%       |
| Fetal anomalies             | 18           | 6.5%       |
| Multiparity                 | 30           | 10.5%      |
| Contracted pelvis           | 08           | 2.8%       |
| Prematurity<37 wks          | 56           | 20.0%      |
| Unknown cause               | 118          | 42.4%      |
| **Total**                   | **278**      | **100%**   |

Table 9: Maternal risk factors

Prematurity is the most common known cause of abnormal presentation, accounting for 20% of the cases. Of the remaining risk factors, 10.5% of cases are due to multiparity, 10.4% of cases are due to oligohydramnios, 6.5% of cases are due to fetal anomalies, 2.8% of cases are due to uterine malformations, 2.8% of cases due to contracted pelvis, 2.1% cases due to polyhydramnios, 1.4% of cases due to placenta previa. In majority of cases, 42.4%, the cause remains unknown.
### Table 11: Comparative study for the causes for breech presentation

| Sl. No. | Etiology                  | Dr. Das 1964 | Dr. Subhadevi 1983 | Dr. Madhavikalyani 2013 | Present study |
|---------|---------------------------|--------------|--------------------|-------------------------|---------------|
| 1       | Unknown                   | -            | 80%                | 85%                     | 42.4%         |
| 2       | Uterine anomalies         | 7%           | 7.9%               | 12%                     | 2.8%          |
| 3       | Contracted pelvis         | -            | 3.6%               | 2%                      | 2.8%          |
| 4       | Hydramnios                | 2.7%         | 3.1%               | 1%                      | 2.1%          |

### Table 12: APGAR scoring of the newborn

| Sl. No. | APGAR Score | No: of cases | Percentage |
|---------|-------------|--------------|------------|
| 1       | 0-2         | 24           | 8.6%       |
| 2       | 2-4         | 8            | 2.9%       |
| 3       | 4-6         | 2            | 0.8%       |
| 4       | 6-8         | 40           | 14.4%      |
| 5       | 8-10        | 204          | 73.3%      |

About 8.6% of babies had APGAR 0-2 and 2.9% babies had APGAR 2-4. APGAR score was 6-8 in 14.4%, and 8-10 in 73.3% of babies. With APGAR scores above 6(87.7%) all babies survived.

|                       | No: cases | Percentage |
|-----------------------|-----------|------------|
| Intra uterine death   | 20        | 7.2%       |
| Still birth           | 04        | 1.4%       |
| Early neonatal death  | 10        | 3.6%       |
| **Total**             | **34**    | **12.2%**  |

Table 13: Fetal Mortality

Of the 278 malpresentations, 12.2% cases accounted to perinatal mortality. Among them 7.2% were intra uterine deaths, 1.4% were still births and early neonatal deaths were 3.6%.

**DISCUSSION:** Identification of malpresentations and their etiological factors, is of vital importance to reduce perinatal morbidity and mortality.

In the present study, 278 cases of malpresentations were identified among 5704 deliveries in King George hospital, Visakhapatnam.

According to 11th 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%. (1)
In the present study, 84.89% accounted to breech presentation, 5.04% of cases were transverse lie, 4.36% were face presentation, brow accounted to 1.44% of the cases, 2.16% each were contributed by compound and cord presentation. This was similar to study conducted by Noor et.al.\(^{(2)}\)

In the present study, malpresentations were most common 61.15% in the age group of 21-25 years, 19.42% were in the age group below 20 years, 12.94% in 26-30 years and 6.47% were in the age group above 30 years. These findings correlate with that reported by other studies Vijayalahkshmi et.al, reported 47% were in the age group of 21-25 years, 17% were in the age group of 15-20 years, 27% of the cases in the age group of 26-30 years and 9% in the age group of 31-35 years.\(^{(3)}\)

In this study 61.15% were unbooked cases which was similar to other studies, Vijayalahkshmi et.al reported 65 were unbooked cases,\(^{(3)}\) Noor et.al reported 276 unbooked cases.\(^{(2)}\)

In the present study 54.67% occurred in primigravidae. Noor et.al showed 25.17% of the cases were in primigravidae, Vijayalahkshmi et.al reported 75% of the cases are in multipara.

In the present study breech was the most common malpresentation, 58 cases were delivered by vaginal route. Among them 58.62% had assisted breech delivery, 41.38% 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%.\(^{(2)}\)

In the present study face presentation accounted to 4.36% of the cases, of which 66.7% 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.\(^{(4)}\)

In the present study 18 cases with malpresentations delivered anomalous babies. Among them 5 babies had hydrocephalus, 6 were born with congenital talipes equino varus, 3 were anencephaly babies, gastroschisis and ambiguous genitalia were seen in 2 each. 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.\(^{(2)}\)

In the present study prematurity was the most common etiological factor, accounting to 20% of the cases, 10.5% accounted to multiparity, 2.8% each presented with uterine anomalies and contracted pelvis, 12.5% presented with disorders of amniotic fluid volume and 1.4% cases had placenta previa. Similar observations were made in other studies; Vijaya Lakshmi et.al reported multiparity as most common etiological 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.\(^{(3)}\)

In the present study perinatal mortality was seen in 34 cases, among them 20 were intra uterine deaths, 4 were still born and 10 had early neonatal deaths following low APGAR at delivery. Similar results were observed in other studies; Noor et.al reported perinatal mortality among 44 cases, among them 37 were still born and 7 had early neonatal deaths.\(^{(2)}\) Vijaya Lakshmi et.al reported 45 still births, 7 neonatal deaths among 100 cases.\(^{(3)}\)
CONCLUSION: Management of abnormal presentation is a continuing challenge to the obstetrician. Education about diagnosis of malpresentation and identification of etiological 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 feto-maternal outcome.

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AUTHORS:
1. K. V. S. M. Sandhya Devi
2. P. Vijaya Sheela
3. G. Anitha

PARTICULARS OF CONTRIBUTORS:
1. Associate Professor, Department of Obstetrics & Gynecology, Andhra Medical College.
2. Assistant Professor, Department of Obstetrics & Gynecology, Andhra Medical College.
3. Post Graduate, Department of Obstetrics & Gynecology, Andhra Medical College.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:
Dr. K. V. S. M. Sandhya Devi, 4A, Krishnaveni Towers, Peda Waltair, Visakhapatnam-530017, Andhra Pradesh.
E-mail: sandhyaobg@gmail.com

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