Analysis Of Etiological Factors And Maternal Outcome In Various Malpresentations: A Retrospective Study

ABSTRACT

BACKGROUND - Any presentation other than vertex is termed a malpresentation and includes brow, face, breech, shoulder and compound presentations. Malpresentations usually ends increasing operative delivery, leading to increased adverse outcome for mother and baby. Early diagnosis and management can prevent complications.

OBJECTIVES- to find out the etiological factors and the impact of malpresentation on maternal outcome among women delivering at a a tertiary care centre

METHODS -This is a retrospective study conducted in the department of Obsteterics and Gynecology at Basaveshwara teaching and general hospital and sangameshwar teaching hospital, Kalaburagi over a period of 12 months from 1/10/2023 to 31/9/2024. A total of 140 pregnant women among 2869 total delivered women were included in this study.

RESULTS - Among the 140 women analyzed among the total 2869 deliveries between oct2023-sept2024, breech presentation was the commonest malpresentation (4.49%) followed by transverse lie 0.24% and face presentation 0.13%, most common in the age group between 20-29 years(53.57%). The commonest etiological factor for breech presentation in this study was prematurity (30.2%), for transverse lie and face presentation it was multiparity (71.4% and 75% respectively). The mode of delivery for all the malpresentations was mostly Lower Segment Caesarean section.

CONCLUSION -Management of Malpresentation 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 tertiary centres for specialist services where the delivery can be planned, centres which have expertise in conducting vaginal delivery in malpresentations with good intrapartum monitoring and with facilities for caesarean section for better fetomaternal outcome

KEYWORDS- Malpresentation, breech, transverse lie, face presentation

Introduction

Any presentation other than vertex is termed a malpresentation and includes brow, face, breech, shoulder and compound presentations (1). Many studies were conducted to find the cause of malpresentation and its maternal / fetal outcome focused on gravida, malpresentation, and association with their route of delivery. Malpresentations usually ends increasing operative delivery, leading to increased adverse outcome for mother and baby (2). Maternal complications include prelabour rupture of membranes, cord prolapse, increased risk of instrumental delivery, caesarean section, obstructed labor, and rupture uterus, increased morbidity and mortality. Fetal complications are low 5-minute Apgar score, meconium aspiration, hypoxic-ischemic encephalopathy, birth trauma(1). Breech is the most common form of malpresentation occurring in 3–4% of all women at the onset of labour at term. The incidence of face presentation which was around 1 in 600 births in the 1950s has shown a reduction over time to about 1 in 1000. Brow occurs in 0.14% deliveries. Transverse lie of the fetus occurs in approximately 0.12% deliveries(3). Compound presentation has an incidence of approximately 1 in 1000 (4).

Early diagnosis and management can prevent complications of prolonged labor like bleeding, infection and long term issues of pelvic floor damage, especially with prolonged 2nd stage. Hence this study

was done to find out the etiological factors and the impact of malpresentation on maternal outcome.

Materials And Methods

This is a retrospective study conducted in the department of Obsteterics and Gynecology at Basaveshwara teaching and general hospital and Sangameshwar teaching hospital, Kalaburagi over a period of 12 months from 1/10/2023 to 31/9/2024. A total of 140 pregnant women among 2869 total delivered women were included in this study with a gestational age >24 weeks with malpresentation were included in this study. Exclusion criteria included <24 weeks gestational age and incomplete records. Data was collected from the hospital records and included patient demographics, obstetric history, gestational age, type of malpresentation, etiological factors, delivery mode, birth weight and apgar scores.

Data was analysed using the statistical package for the social sciences(SPSS) version 16.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to calculate frequencies and percentages.

Results

The study included 140 women (n=140) with malpresentation, 11 patients presented with intrauterine fetal demise. The data analysis yielded the following findings :

Age Distribution

Most patients (53.57%) belonged to the age group 20-29 yrs, followed by <20 years(32.14%) and >30 years (14.28%)

AGE	NUMBER	PERCENTAGE
<20 years	45	32.14%
20-29years	75	53.57%
>30years	20	14.28%

Distribution According To Gestational Age

Most commonly the patients belonged to the gestational age <37weeks (55.71%) indicating prematurity as one of the most common causes of malpresentation.

GESTATIONAL AGE	NUMBER	PERCENTAGE
<37 weeks	78	55.71%
37-40 weeks	57	40.71%
>42weeks	05	3.57%

Distribution According To Type Of Malpresentation

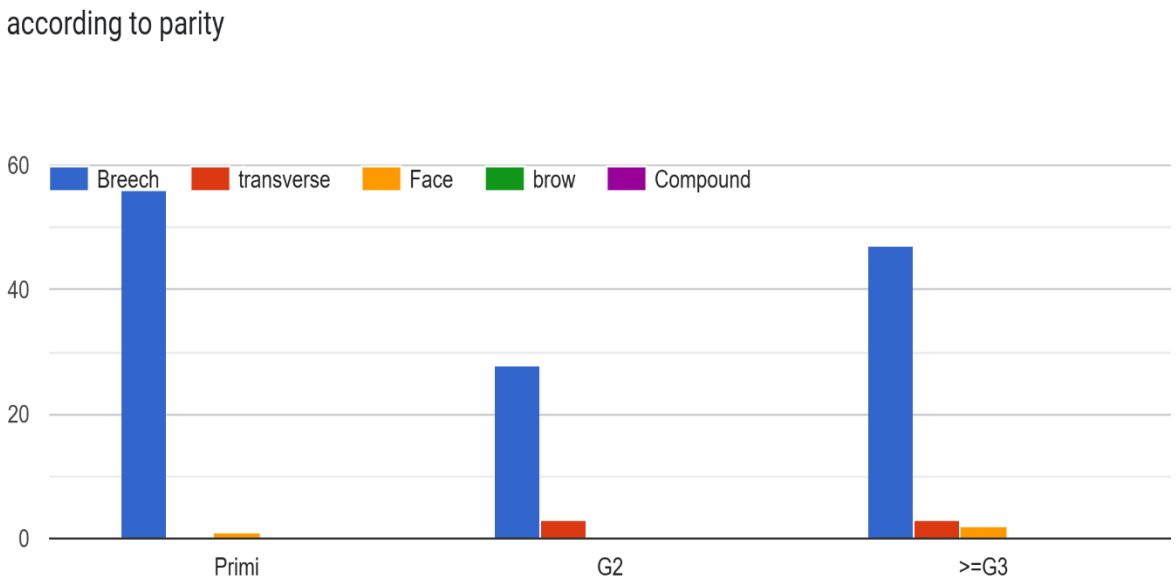
Among the total 2869 deliveries, breech was the commonest malpresentation accounting to 4.49% followed by transverse lie 0.24% and face presentation 0.13%.

TYPE	NUMBER(n=2869)	PERCENTAGE
BREECH	129	4.49%
TRANSVERSE LIE	07	0.24%
FACE PRESENTATION	04	0.13%

Parity Distribution

Breech presentation was the commonest malpresentation, being the highest (43.41%) in primigravidas followed by multigravidas(>=G3). Transverse lie was more common in G2 (57.14%). Face presentation was more common in >=G3.

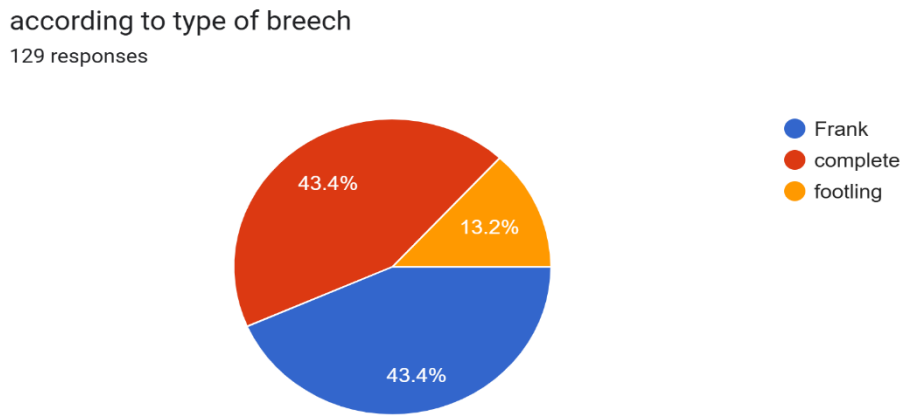
	PRIMIGRAVIDA	G2	>=G3
BREECH	56(43.41%)	28(21.7%)	47(36.43%)
TRANSVERSE	00	04(57.14%)	03(42.85%)
FACE	01(33.33%)	00	02(66.67%)



According To Type Of Breech

In this study, frank and complete breech were found in equal numbers.(43.4%)

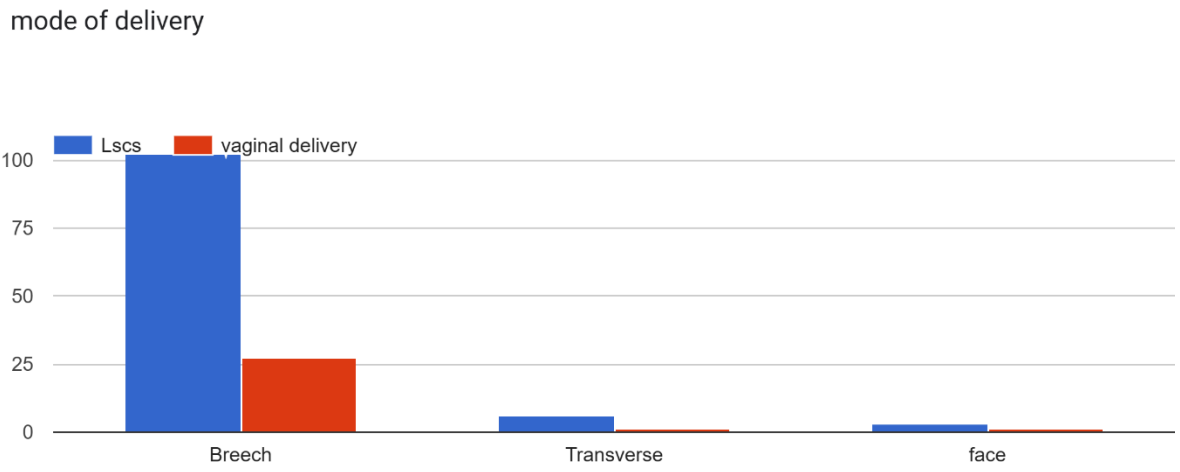
	NUMBER	PERCENTAGE
FRANK	56	43.4%
COMPLETE	56	43.4%
FOOTLING	17	13.2%



According To The Mode Of Delivery

The mode of delivery for all the malpresentations was mostly Lower Segment Caesarean section (breech – 79.06%, transverse- 85.71%, Face -75%). One patient with transverse who was extremely preterm and presented with Intrauterine Fetal demise delivered vaginally by breech presentation.

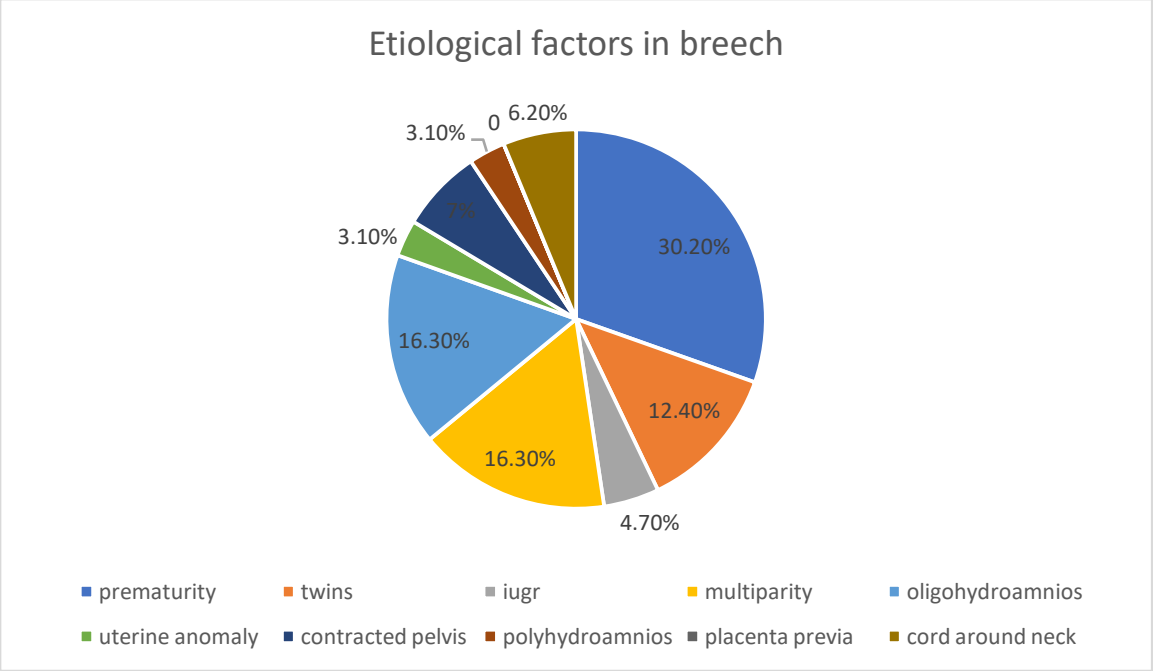
	BREECH	TRANVERSE	FACE
LSCS	102(79.06%)	6(85.71%)	3(75%)
VAGINAL DELIVERY	27(20.93%)	1(14.28%)	1(25%)



Analysis Of Etiological Factors In Breech Presentation

The commonest etiological factor for breech presentation in this study was prematurity (30.2%), followed by multiparity (16.3%),oligohydramnios (16.3%) and twins(12.4%). Polyhydramnios, IUGR, contracted pelvis, uterine anomaly (bicornuate uterus), cord around neck were among the other causes.

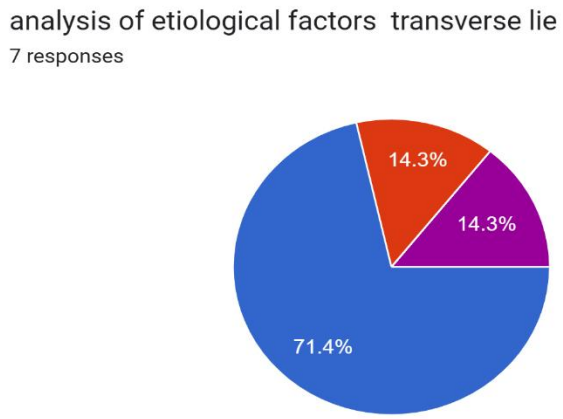
	NUMBER	PERCENTAGE
PREMATURITY	39	30.2%
TWINS	16	12.4%
IUGR	06	4.7%
MULTIPARITY	21	16.3%
OLIGOHYDRAMNIOS	21	16.3%
UTERINE ANOMALY	04	3.1%
CONTRACTED PELVIS	09	7%
POLYHYDRAMNIOS	04	3.1%
PLACENTA PREVIA	01	0.8%
CORD AROUND NECK	08	6.2%



Analysis Of Etiological Factors In Transverse Lie

The commonest etiological factor for transverse lie in the present study was multiparity (71.4%). Preterm and placenta previa were among the other causes.

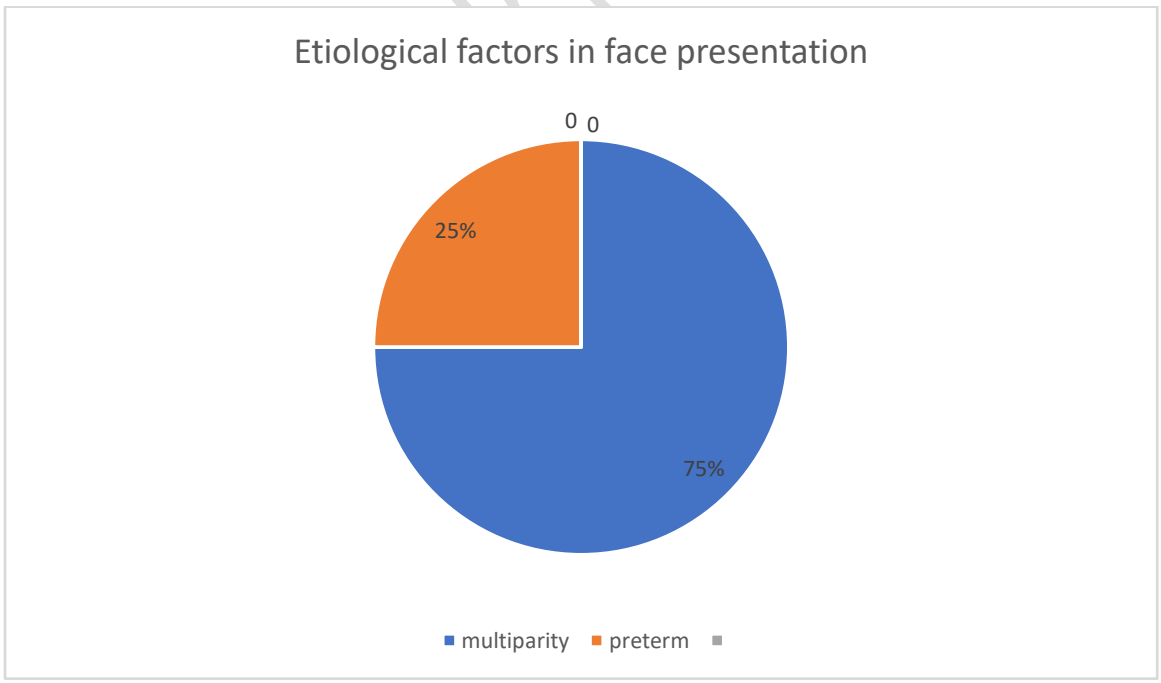
	NUMBER	PERCENTAGE
MULTIPARITY	05	71.4%
PRETERM	01	14.3%
PLACENTA PREVIA	01	14.3%



Analysis Of Etiological Factors In Face Presentation

The commonest etiological factor for face presentation was multiparity (75%) followed by preterm(25%).

	NUMBER	PERCENTAGE
MULTIPARITY	03	75%
PRETERM	01	25%



Discussion

Malpresentation poses unique challenges in obstetric care due to its associated risks for both the mother and fetus. This retrospective study analyzed 140 cases at a tertiary care center to assess the etiological factors and maternal outcomes linked to malpresentations, with an emphasis on comparing findings with those of other published studies.

Among the 140 women analyzed among the total 2869 deliveries between oct2023-sept2024, breech presentation was the commonest malpresentation (4.49%) followed by transverse lie 0.24% and face presentation 0.13%, most common in the age group between 20-29 years(53.57%). The incidence of breech was higher in this study due to inclusion of preterm births. These findings align with Indian studies by Anjali et al(5). Most commonly the patients belonged to the gestational age <37weeks (55.71%) indicating prematurity as one of the most common causes of malpresentation.

In the present study, 40.71% occurred in primigravidae. Anjali et al showed 45.38% of the cases were in primigravidae(5) and Vijayalakshmi et al reported 75% of the cases were in multipara(6). 11 cases among 140 presented with intrauterine fetal demise

The commonest etiological factor for breech presentation in this study was prematurity (30.2%), followed by multiparity (16.3%),oligohydramnios (16.3%) and twins(12.4%). Polyhydramnios, IUGR, contracted pelvis, uterine anomaly (bicornuate uterus), cord around neck were among the other causes. Prematurity (28.48%) was reported as the commonest cause of breech in the study by Bhati RS, Choudhary SI.(7)

The commonest etiological factor for transverse lie in the present study was multiparity (71.4%). 90.81% of transverse lie cases occurred in multiparous women in the study by S.Shruti et al.(1)

The commonest etiological factor for face presentation was multiparity (75%) followed by preterm(25%). Zayed et al, showed 65.8% incidence of multiparity in face presentation(8).

Cesarean section was the chosen delivery mode in 79.28% of cases. This reflects both the global trend toward cesarean section for malpresentations. Other Indian studies have reported cesarean rates as high as 84.2% for malpresentations(2).

These findings underscore the need for individualized care and institution-specific protocols. While caesarean remains the preferred option for malpresentations in most centres, training in vaginal breech delivery, where feasible, may offer a safe alternative in selected cases

Conclusion

Management of Malpresentation 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 tertiary centres for specialist services where the delivery can be planned, centres which have expertise in conducting vaginal delivery in malpresentations with good intrapartum monitoring and with facilities for caesarean section for better fetomaternal outcome.

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