A CLINICAL STUDY OF OUTCOME OF LABOUR IN TRANSVERSE LIE
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ABSTRACT: Transverse lie complicates approximately 0.5% of birth and may result in neglected or impacted shoulder presentation leading to obstructed labour, rupture uterus and postpartum haemorrhage which may result in death of the mother, if not adequately managed in labour. A prospective observational study done in VIMS Bellary, Karnataka, aim of the study was to know the maternal and fetal outcome, to study caesarean rate, maternal and neonatal complications following caesarean. Objective of the study is to analyse the various modes of outcome of transverse lie to know the fetal and maternal mortality and morbidity, to improve the conditions which decreases these rates and guide us for better management of these cases. Out of 6116 deliveries 100 cases were transverse lie during 2 year period from April 1999 to January 2001. Out of 100 cases, 76 were caesarean sections, 48 were live births, 7 were neonatal deaths, 45 were still births. Maternal morbidity was 2 cases required subtotal hysterectomy. There were no maternal deaths. Elective caesarean section should be advised in all booked cases with transverse lie at term, after ruling out congenital anomalies of the fetus by anomaly scan.

KEYWORDS: Transverse lie, Version, Labor Complications, Maternal outcome and Fetal outcome.

INTRODUCTION: Transverse lie complicates approximately 0.5% of births¹ and may result in neglected or impacted shoulder presentation leading to obstructed labour, rupture uterus and postpartum haemorrhage which may result in death of the mother, if not adequately managed in labour. Due to improper antenatal care there is high incidence of undiagnosed malpresentation in labour, and moreover due to inadequate transport facilities there is delay in approaching at the tertiary health Centre. These complicated, undiagnosed cases of transverse lie report to the hospital in advanced labour and by this time it is not always possible to salvage their babies and even some times these mothers also.

Aetiology of transverse lie are maternal factors like polyhydramnios causing an increased ratio of fluid to fetus, something preventing the engagement of the head in the pelvis, placenta praevia, fibroids, contracted pelvis, abnormal shape of uterus (subseptate or arcuate uterus), grand multiparity (5+), fetal factors like prematurity, second twin.²³ Our study was to know the maternal and fetal outcome, to study caesarean rate, maternal and neonatal complications following caesarean in transverse lie.

MATERIALS AND METHODS: A prospective observational study done in VIMS Bellary, Karnataka. Aim of the study was to know the maternal and fetal outcome, to study caesarean rate, maternal and neonatal complications following caesarean.
Out of 6116 deliveries 100 cases were transverse lie during 2-year period from April 1999 to January 2001. The foetus was said to be in transverse lie when its longitudinal axis is perpendicular to the maternal spine.

The study includes the obstetrical behavior of these women during labour and post-partum period. On admission to the hospital, their relevant data were recorded, including name, maternal age, socio-economic status, address, antenatal visits and previous obstetric history. History of duration of labour pains and leak (if present) were noted. General, systemic and obstetric examination was done, per vaginal examination was done, pelvis was assessed to rule out contracted pelvis.

Routine investigations were done, diagnosis of placenta previa was made on ultrasound, lower segment masses which could predispose to transverse lie were excluded by USG. During caesarean section uterine anomalies are ruled out, maternal and neonatal outcome were noted.

Data analysis to derive percentages were done using Statistical Package for Social Sciences (SPSS) version.

RESULTS: Out of 6116 deliveries 100 cases were transverse lie giving incidence of 1.64%.

Out of 100 cases 35 cases had regular antenatal care in our hospital, 65 cases were unbooked, table-1 and came in labour with different modes of presentation like shoulder presentation, hand prolapse, hand and cord prolapse, transverse lie with obstructed labour, rupture uterus etc. table-8. Most of the cases were in the age group 21 – 25 years, 47%, table 3. Most of the cases were from low socioeconomic group 93%, table-2. Incidence of transverse lie is high in multipara, table 4.

Out of 100 cases 80% had previous normal deliveries, 10% had previous LSCS, table -5. Multiparity is the most common etiological factor for transverse lie, 75 (75%) cases were multipara, 10 cases (10%) had uterine anomalies, 7 cases had placenta previa, 3 cases had contracted pelvis, 3 had twin gestation, 2 cases cause was unknown, table-6.

Most of the cases came late in labour between 13- 24 hours after the onset of labour pains giving incidence of 61%, one case presented above 36 hours with rupture uterus with haemorrhagic shock, table-7.

Seventy-six cases (76%) underwent caesarean section with a foetal loss of 34. 64 cases were emergency LSCS, 12 cases were elective sections, IPV were done in 12 cases, 1 case was previous LSCS with hand prolapsed and a live baby was delivered, for 2nd twin in 2 cases IPV was done. The incidence of twin pregnancy with transverse lie in our study is 3%. 2 cases underwent emergency laparotomy, table -9. The indications for caesarean section in transverse lie are set out in Table 10.

Out of 100 cases, 82 cases were uneventful, 18 cases had maternal complications. 5 cases had postpartum haemorrhage, table-11. No maternal deaths.

Foetal morbidity and mortality are high in cases of transverse lie due to complications associated with it. Out of 100 cases 48 cases were live birth, 45 were still births, 7 cases were neonatal deaths, 2 babies have injuries fracture humerus, 1 had multiple congenital anomalies.
DISCUSSION: The incidence of transverse lie will vary with the inclusion of cases of premature labour and of twins. Incidence of transverse lie according to various studies were Dalal et al 1970 1.3%, Aziz et al 1980 - 0.8%, Fuschs 1985 0.4%, Eidelman (1988) 3% and present study was 1.6%.

Incidence of multiparity in Nargis dalal et al was 60.3%, Jacob was 58.6%, Hall et al was 52.3%, Chakravarthy et al was 49.2% and our study was 75%.

Out of 104 cases studied by Jacob et al in 1971 mode of delivery by caesarean section were 22, in our study out of 100 cases for 76 cases caesarean section was done internal podalic version were done in 73, in our study 12 IPV was done spontaneous delivery 2, in our study 7 cases spontaneously delivered, subtotal hysterectomy 3, in our study 2 cases required subtotal hysterectomy, destructive procedure evisceration were nil, in our study 3 cases evisceration was done, repair of rupture uterus were 3 and external cephalic version followed by normal delivery was 1, in our study there were no cases.

Thompson (1964) reported an incidence of placenta praevia of 7% in 127 cases of transverse lie. In our study also incidence of placenta previa was 7%.

Winkler & Cangello (1960) however, do not consider that 'uncomplicated' transverse lie is an absolute indication for caesarean section. In our study, twelve cases were dealt by internal podalic version and seven babies were lost.

Uterine anomalies in various studies were Eidelman (1988) - 14% table -13, Aziz (1980)-12%. Maternal mortality in various studies was in Jacob et al-3.8%, in Ramavaish (1962)-3%-table 14. Fetal mortality according to various studies table 15.

CONCLUSION: Transverse lie constitutes one of the categories of high risk pregnancies. It may result in neglected or impacted shoulder presentation leading to obstructed labour, rupture uterus and postpartum haemorrhage which may result in death of the mother, if not adequately managed in labour. Elective caesarean section should be advised in all booked cases with transverse lie at term, after ruling out congenital anomalies of the fetus by anomaly scan.

In modern obstetrics destructive operations are done in minimal cases because of high maternal morbidity and mortality. Hence caesarean section is better than vaginal delivery because of facilities available (Higher antibiotics, anesthesia facilities and blood transfusions).

The introduction of high risk pregnancy screening at primary level, adequate training of health personnel and paramedical staff for recognizing high risk cases and referral to higher centers for management.

| Booked cases | Un booked cases |
|--------------|-----------------|
| 35           | 65              |
| Table 1: Ante Natal Care |

| Low Socio Economic Status | Middle Class Socio Economic Status |
|--------------------------|-----------------------------------|
| 93                       | 7                                 |
| Table 2: Socio Economic Status |
### Table 3: Age Incidence

| Sl. No. | Age in Years | Number of Cases | Percentage |
|---------|--------------|-----------------|------------|
| 1       | 15-20 years  | 17              | 17%        |
| 2       | 21-25        | 47              | 47%        |
| 3       | 26-30        | 27              | 27%        |
| 4       | 31-35        | 9               | 9%         |

### Table 4: Incidence of Parity

| Sl. No. | Parity       | Number of Cases | Percentage |
|---------|--------------|-----------------|------------|
| 1       | Primi        | 14              | 14%        |
| 2       | Para 1       | 32              | 32%        |
| 3       | Para 2       | 25              | 25%        |
| 4       | Para 3       | 18              | 18%        |
| 5       | Grand multi  | 11              | 11%        |

### Table 5: Previous Obstetric History

| Sl. No. | Previous Obstetric History | Number of Cases | Percentage |
|---------|---------------------------|-----------------|------------|
| 1       | FTVD                      | 80              | 80%        |
| 2       | Caesarean section         | 10              | 10%        |
| 3       | Malpresentation           | 7               | 7%         |
| 4       | Internal podalic version  | 2               | 2%         |
| 5       | Retained placenta         | 1               | 1%         |

### Table 6: Etiology of Transverse Lie

| Sl. No. | Etiology                        | Number of cases | Percentage |
|---------|---------------------------------|-----------------|------------|
| 1       | Multiparity                     | 75              | 75%        |
| 2       | Uterine malformations           |                 |            |
|         | (a) Arcuate uterus              | 10              | 10%        |
|         | (b) Bicornuate uterus           | 7               | 7%         |
|         | (c) Sub septate uterus          | 2               | 2%         |
|         | (d) Other                        | 1               | 1%         |
| 3       | Placenta previa                 | 7               | 7%         |
| 4       | Contracted pelvis               | 3               | 3%         |
| 5       | Twins                           | 3               | 3%         |
| 6       | Unknown                         | 2               | 2%         |
### Sl. No. | Duration of hours in labour | Number of cases | Percentage |
|-------|---------------------------|----------------|------------|
| 1     | 0-12                      | 31             | 31%        |
| 2     | 13-24                     | 61             | 61%        |
| 3     | 25-36                     | 7              | 7%         |
| 4     | Above 36 hours            | 1              | 1%         |

Table 7: Duration of Labour

### Sl. No. | Mode of Presentation | Number of cases | Percentage |
|-------|----------------------|----------------|------------|
| 1     | Shoulder presentation| 38             | 38%        |
| 2     | Hand prolapse        | 32             | 32%        |
| 3     | Hand and cord prolapse| 14            | 14%        |
| 4     | PROM                 | 12             | 12%        |
| 5     | Obstructed labour    | 11             | 11%        |
| 6     | Bleeding per vagina  | 10             | 10%        |
| 7     | Cord prolapse        | 4              | 4%         |
| 8     | Rupture uterus       | 2              | 2%         |

Table 8: Mode of Presentation

### Sl. No. | Mode of Delivery | Number of cases | Percentage |
|-------|-----------------|----------------|------------|
| 1     | Caesarean section | 76             | 76%        |
|       | (a) Emergency    | 64             | 64%        |
|       | (b) Elective     | 12             | 12%        |
| 2     | Emergency laparotomy | 2            | 2%         |
| 3     | Internal podalic version | 12  | 12%        |
| 4     | Corpora conduplicata | 4           | 4%         |
| 5     | Spontaneous version | 2            | 2%         |
| 6     | Spontaneous evolution | 1           | 1%         |
| 7     | Destructive operation| 3             | 3%         |

Table 9: Mode of Delivery

### Sl. No. | Indications | Number of Cases | Percentage |
|-------|-------------|----------------|------------|
| 1     | Elective (previous LSCS, BOH, primi with transverse lie) | 12 | 12% |
| 2     | Emergency LSCS | 64 | 64% |
|       | a. Hand prolapse | 21 | 21% |

Table 10: Indications
b. Hand and cord prolapse  
9  |  9%

c. Obstructed labour  
11 |  11%

d. Previous LSCS  
9  |  9%

e. Placenta previa  
7  |  7%

f. Cord prolapse  
4  |  4%

g. For 2nd twin  
1  |  1%

h. Failed version  
1  |  1%

i. Impacted shoulder  
1  |  1%

Table 10: Indications for Caesarean Section in Present Study

| Sl. No. | Maternal Complications                  | Number of Cases | Percentage |
|---------|-----------------------------------------|----------------|------------|
| 1       | Post-partum haemorrhage                  | 5              | 5%         |
| 2       | Puerperal pyrexia                        | 4              | 4%         |
| 3       | Vaginal lacerations                      | 3              | 3%         |
| 4       | Puerperal sepsis                         | 3              | 3%         |
| 5       | Rupture uterus                           | 2              | 2%         |
| 6       | Cervical tear                            | 1              | 1%         |

Table 11: Maternal Complications

| Sl. No. | Caeserian section | Internal podalic version | Corpora conduplicata | Spontaneous version | Spontaneous expulsion | Rupture uterus | Evisceration |
|---------|------------------|--------------------------|----------------------|---------------------|-----------------------|----------------|--------------|
| 1       | Live birth       | 46                       | 2                    | -                   | -                     | -              | -            |
| 2       | Still birth      | 27                       | 7                    | 4                   | 1                     | 2              | 3            |
| 3       | Neonatal death   | 7                        | -                    | -                   | -                     | -              | -            |

Table 12: Fetal Outcome

| Sl. No. | Authors              | Percentage |
|---------|----------------------|------------|
| 1       | Eidelman(1988)       | 14.3%      |
| 2       | Aziz(1980)           | 12.4%      |
| 3       | Fuschs(1985)         | 9%         |
| 4       | Our study            | 10%        |

Table 13: Uterine Anomalies in Various Studies
Table 14: Maternal Mortality by Various Studies

| Sl. No. | Authors                     | Number of Cases Studied | Maternal mortality |
|---------|-----------------------------|-------------------------|--------------------|
| 1       | Jacob (1971)                | 104                     | 3.8%               |
| 2       | Ramavaish (1962)            | 100                     | 3%                 |
| 3       | Webster and Geittam (1956)  | 100                     | -                  |
| 4       | Mitra (1981)                | 97                      | -                  |
| 5       | Parikh (1964)               | 37                      | -                  |
| 6       | Our study                   | 100                     | -                  |

Table 15: Fetal Mortality according to Various Studies

| Sl. No. | Authors      | Percentage |
|---------|--------------|------------|
| 1       | Dalal (1970) | 70.3%      |
| 2       | Jacob (1971) | 68.2%      |
| 3       | Parikh (1964)| 64.8%      |
| 4       | Ramavaish (1962) | 61.3%  |
| 5       | Mitra (1981) | 37.5%      |
| 6       | Our study    | 52%        |

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