

# Management of Term Singleton Transverse Lie: A Prospective Study

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## Abstract

**Introduction:** Transverse lie of the fetus is a position when the long axis of fetus is approximately perpendicular to the long axis of mother. Spontaneous delivery of a term fetus is impossible with a persistent transverse lie and, in general, the onset of labor is an indication for the lower segment cesarean section (LSCS).

**Materials and Methods:** Authors studied the management of term singleton transverse lie. This was a prospective observational study of 100 consecutive patients with term singleton transverse lie presentation who underwent LSCS during the study period of 7 months from November 2014 to May 2015. The age of the patients ranged from 20- to 43-year-old and 28 patients were primigravidas and 32 had previous first LSCS.

**Results:** Of the 100 patients, low transverse incision was employed in 91, high transverse incision in 8, and classical incision in 1 patient. Extension in the form of J or T was required in seven patients. Lateral inadvertent tears were seen in 11 women who underwent LSCS.

**Conclusion:** Early diagnosis during the antenatal period and elective cesarean section should be the goals of proper management in a transverse lie presentation.

**Key words:** Cesarean section, Transverse lie, Singleton

## INTRODUCTION

The transverse lie of the fetus is a position when the long axis of fetus is approximately perpendicular to the long axis of mother.<sup>[1]</sup> The back may be directed anterior, posterior, superior, or inferior and it is customary to distinguish varieties as dorsoanterior, dorsoposterior, dorsoinferior, and dorsosuperior. The incidence of transverse lie is around 1:335 fetuses.<sup>[1]</sup> Spontaneous delivery of a term fetus is impossible with a persistent transverse lie and, in general, the onset of labor is an indication for the lower segment cesarean section (LSCS) in a case of transverse lie.<sup>[2]</sup> During cesarean section, there is always a danger of difficult fetal extraction with attendant fetal and maternal

consequences.<sup>[3]</sup> Fetal mortality ranges from 0% to 10%.<sup>[4]</sup> One of the major decisions facing the surgeon is the type of uterine incision to make during cesarean section.<sup>[2]</sup>

Transverse lie of a large fetus especially if the membrane is ruptured and shoulder is impacted in the birth canal or a fetus presenting back down is particularly difficult to deliver. While a transverse incision in the lower uterine segment is popular due to its safety, low vertical incision is advocated by some though not favored as it can easily extend to the upper segment.<sup>[5]</sup>

The aim of this study was to assess the management of a term singleton transverse lie.

## MATERIALS AND METHODS

A prospective observational study of 100 consecutive cases of singleton term transverse lie women recorded over a period of 7 months from November 2014 to May 2015 was done. During this period, a total of 7926 cesarean sections

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were performed, out of which 100 were done for term transverse singleton pregnancies. The term was defined as more than 37 completed weeks of gestation. Complete history and physical examinations were performed including maternal age, parity, last menstrual period, and gestational age. Details of the operation including type of incision made in uterus and maneuver employed to deliver the fetus if required were noted. Maternal complications including deliberate or inadvertent extension of the uterine incision, postpartum hemorrhage, and need for blood transfusion were noted.

Infant information was noted from the pediatric notes such as APGAR score at 5 min, birth-related trauma, stillbirth, and cause of death.

Statistical package for the social sciences (SPSS version 20) was used to obtain the statistical analysis of the data, and  $P < 0.05$  was considered as statistically significant.

## RESULTS

A total of 100 consecutive term singleton transverse lie pregnancies were studied during the study period of 7 months from November 2014 to May 2015. During this period, 14,311 deliveries took the place, of which 131 were transverse lie. Of these, 31 patients were excluded from the study in view of prematurity and multiple gestations. The total of 100 selected patients had a gestation age of 37–40 weeks with a mean gestation of 38.6 weeks. The fetal position was documented clinically in all women. External cephalic version (ECV) was not attempted in any patient as most of our cases had previous scarred uteri. Twenty-nine patients were in labor at the time of admission with 1 cord prolapse and 1 arm prolapse.

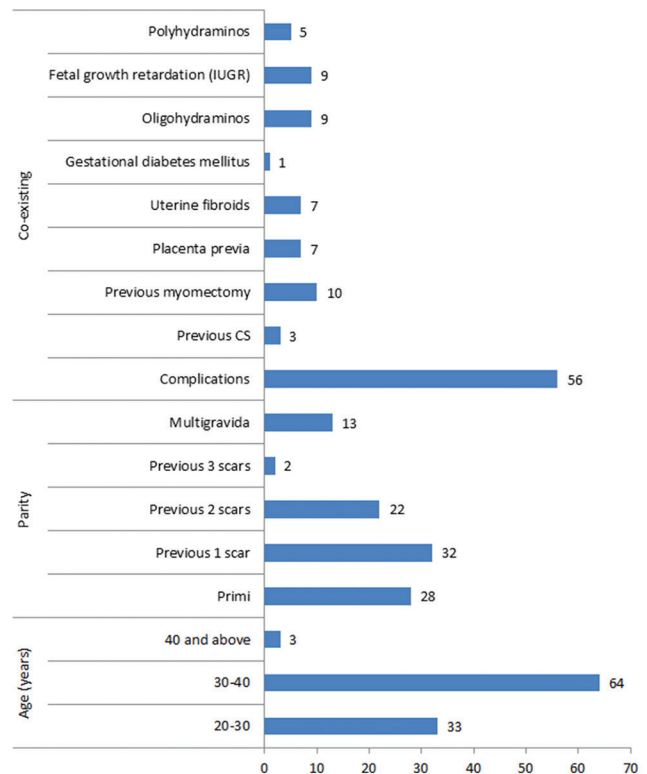
The age of the patients ranged from 20 to 43 years. Twenty-eight patients were primigravidas, 32 had previous 1 LSCS, 22 had previous 2 LSCS, and 2 patients had previous 3 LSCS. Three women had undergone previous myomectomy and seven had uterine fibroids. Nine women had oligohydramnios, nine intrauterine growth retardation (IUGR), and five had polyhydramnios.

The low transverse incision was employed in 91 women. The high transverse incision was given in eight patients with fibroid in lower uterine segment and three women of IUGR with poorly formed lower segment. Patients receiving high transverse incision were preferably ligated. one woman with ultrasound documented placenta accreta with adherent bladder underwent classical LSCS followed by subtotal hysterectomy. 88 women underwent emergency cesarean section and 12 elective LSCS. The low vertical incision was

**Table 1: Demographic data and coexisting disorders or complications before surgery in the 100 patients**

Characteristics	No. of women
Age (years)	
20–30	33
30–40	64
40 and above	3
Parity	
Primi	28
Previous 1 scar	32
Previous 2 scars	22
Previous 3 scars	2
Multigravida	13
Coexisting	
Complications	56
Previous CS	3
Previous myomectomy	10
Placenta previa	7
Uterine fibroids	7
Gestational diabetes mellitus	1
Oligohydramnios	9
Fetal growth retardation (IUGR)	9
Polyhydramnios	5

CS: Cesarean section, IUGR: Intrauterine growth restriction

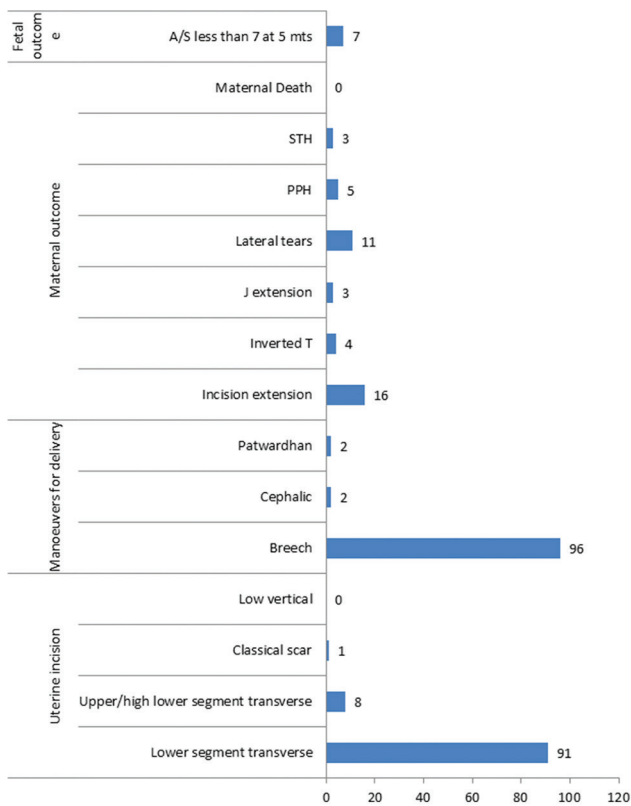


not attempted in any patient as majority of patients were previous LSCS. Fetuses were extracted by grasping the feet and applying traction thereby delivering finally by breech. In two women fetus was delivered cephalic and in other two Patwardhan technique was employed to effect delivery.

**Table 2: Delivery technique and outcome**

Variable	No. of women
Uterine incision	
Lower segment transverse	91
Upper/high lower segment transverse	8
Classical scar	1
Low vertical	0
Maneuvers for delivery	
Breech	96
Cephalic	2
Patwardhan	2
Maternal outcome	
Incision extension	16
Inverted T	4
J extension	3
Lateral tears	11
PPH	5
STH	3
Maternal death	0
Fetal outcome	
A/S<7 at 5 min	7

PPH: Postpartum hemorrhage, STH: Subtotal abdominal hysterectomy



Uterine anomalies as septate, unicornuate, bicornuate, and arcuate malformations were noted in 16 women, of which six were primi and 10 previous scar. External cephalic version was not attempted in any patient. Low transverse incision was converted to inverted T incision in four women and deliberate J incision was given in three patients. 11 women had an inadvertent lateral extension (tear) of the

scar. Of the extensions (deliberate or inadvertent), nine were in dorsoinferior transverse positions. Postpartum hemorrhage was a complication encountered in five women, of which blood transfusion was required in four. Cesarean hysterectomy was required in three women of which one was previous three scars with placenta previa with accreta, other was previous myomectomy with PPH and the last one was a grand multi with congenitally malformed uterus with atonic PPH. Post-operative course was satisfactory in most operated women except 2 who had fever for 4 days. No maternal death was recorded in the study period.

Fetal outcome in the form of A/S <7 at 5 min was noted in 7 infants. Of these, one had congenital anomaly in the form of hydrocephalus. One had IUGR and the rest were infants born to women in prolonged labor with almost whole of the liquor drained. Delivery trauma in the form of fracture femur, dislocation hip, and abrasions was noted in three infants. Two infants had perinatal death [Tables 1 and 2].

## DISCUSSION

Transverse lie is a common malpresentation. Patient if allowed to labor is at risk of cord prolapse, uterine rupture, and traumatic delivery. Good antenatal care, ECV, and elective cesarean section are the mainstay of management.

The low transverse isthmic incision was applied for 91 women in our study. The high transverse uterine incision was given in eight and classical cesarean section was done in one due to inaccessibility of lower segment or the lower uterine segment could not accommodate adequate length of incision transversely. The preference for low isthmic transverse uterine incision and nonuse of low vertical incision for the delivery of a transverse lying fetus as found in this study is in keeping with findings of other studies.<sup>[2,6]</sup> A high transverse was also employed in few patients, especially where further fertility was not required. High transverse incision instead of a low vertical is preferred as repair is easy.<sup>[7]</sup> In addition, we are more comfortable and well versed with a transverse incision than a vertical one. J and T extension incisions are difficult to repair and are associated with poor healing. Incision extension was noted in 16 women (inadvertent/deliberate) with conversion to T or J incision seen in 7. Better blood supply is usually associated with a transverse scar, but further studies are still required to determine scar integrity in high transverse incisions. Ninety-six women were delivered by breech, 2 by cephalic, and 2 by Patwardhan technique. Patwardhan is a technique of reversed fetal extraction in deeply impacted fetal head as seen in obstructed labor in which fetal arms are delivered first followed by breech and head in succession.

It can also be used in deeply impacted transverse lie as well to affect delivery.

Low APGAR score was observed in 7 infants, out of which 1 died within 2 h because of associated congenital anomalies. Birth trauma was seen mostly in infants of oligohydramnios and dorsoinferior position.

NICU admission was required in 11 infants. PPH occurred in five women of whom patients two had placenta previa. Cesarean hysterectomy was performed in three cases.

There was no maternal mortality and infants' stillbirths were low compared to other studies.<sup>[3,6]</sup>

## CONCLUSION

All patients with transverse lie should preferably be diagnosed antenatally. Patients should not be allowed to labor due to high risk of cord prolapse, uterine rupture, traumatic delivery, and stillbirths. Although low transverse

incision is the preferred incision in most cases of poorly formed lower uterine segment, low vertical uterine incision should also be considered.

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