



Management of obstructed labor : a retrospective study

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OBJECTIVE(S) : To review the presentation, management and outcome of obstructed labor during the period from January 1993 to December 1998.

METHOD(S) : Out of 43,906 deliveries reviewed, 245 or 0.56% had obstructed labor. Of these, 155 (63.27%) were delivered by lower segment cesarean section (LSCS) and 90 (36.73%) by destructive operations. These two groups have been compared.

RESULTS : 38.37% (94/245) women presented with dead babies in whom destructive operations [most commonly craniotomy (74.44%)] were performed in 91.49% and LSCS in 8.51%. Complications following LSCS and destructive operations were 7.09 % and 21.11% respectively. Perinatal mortality was 12.90%. At birth, 28.57% babies were severely depressed. 8.57% of the live born babies continued with poor apgar scores at 5 minutes. Maternal mortality was 2.04%.

CONCLUSION(S) : The individualized approach to the management of obstructed labor by either LSCS or a destructive operation according to the situation has a favorable outcome in our set-up.

Key words : obstructed labor, destructive operations, cesarean section

Introduction

Obstructed labor is one where inspite of good uterine contractions, the progressive descent of the presenting part is arrested due to mechanical obstruction. Perhaps the most famous account¹ of obstructed labor is the case of Princess Charlotte of England who died after delivering a 9-pound stillborn Baby following 50 hours of labor¹. Three months later Sir Richard Crofts, the Princess's obstetrician, unable to bear the responsibility of the death of the heir to the British throne committed suicide. This has historically been referred to as "The Triple Obstetric Tragedy". It illustrates the grave consequences of obstructed labor involving the infant, the mother and the doctor.

Fortunately, advances in obstetric care have made obstructed labor nearly obsolete in the developed world. However, this

problem continues to plague thousands of women each year accounting for about 8% of all maternal deaths in developing countries like India¹.

The management of such cases where the fetus is either dead or having severe fetal distress and the mother is severely dehydrated with features of ascending infection, requires a balanced decision by the obstetrician regarding the best method of relieving the obstruction with least hazard to the mother. Prior to the advent of antibiotics and their rapid evolution, the popular method was to reduce the bulk of the fetal head or trunk by destructive operations to allow its extraction through the birth canal. These procedures had very high mortality and morbidity. In the modern era, lower segment cesarean section (LSCS) under good antibiotic coverage has a very low mortality and morbidity and seems to be the best option.

In this retrospective study we have studied the presentation, management and the various complications of obstructed labor cases during the period from January 1993 to December 1998. LSCS as well as destructive operations were performed in these cases as the situation demanded.

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Material and Methods

The total number of births during this period was 43,906 and the total number of women with obstructed labor was 245 (0.56%). All these women were referred from peripheral referral centers.

Protocol for management was as follows —

1. Preliminary assessment of the general condition of the mother, presentation and position of the fetus and pelvic size was done.
2. Condition of the fetus was noted.
3. Maternal resuscitation with intravenous fluids, administration of antibiotics, continuous catheterisation and blood transfusion when necessary were carried out. Vaginal, swab was taken in infected cases.
4. Cesarean section was undertaken in cases with good general condition and living baby, or with severely contracted pelvis and/or impending uterine rupture even with a dead fetus.
5. Destructive operations were resorted to with dead baby (even with a live baby in severe hydrocephalus/ multiple congenital malformations), true conjugate >7.5cm and cervix fully dilated (except in hydrocephalus where perforation of fore-coming head was performed as soon as cervix was 5 cm dilated). Rupture of the uterus was excluded. Infection was no contraindication.
6. All operations were performed under general anesthesia.

Observations

Obstructed labor accounted for 0.56% of the deliveries. Adhering to the above-mentioned protocol, LSCS was performed in 155 women (63.27%), and destructive operations carried out in 90 (36.73%).

Majority of women were primigravidae (LSCS- 55.48%, destructive-67.78%) as the management at birth.

The age distribution showed that most of the women were in the 20-29 years age group while only 45 belonged to the under 19 years or teenage group. Figure 2 gives the management and age distribution.

Ninety-four (38.37%) women presented with a dead fetus. In this group, LSCS was performed in eight (8.51%) and destructive operations in 86 (91.49%).

Perinatal outcome following LSCS was satisfactory. At birth, 28.57% babies were severely depressed, only 8.57% of the

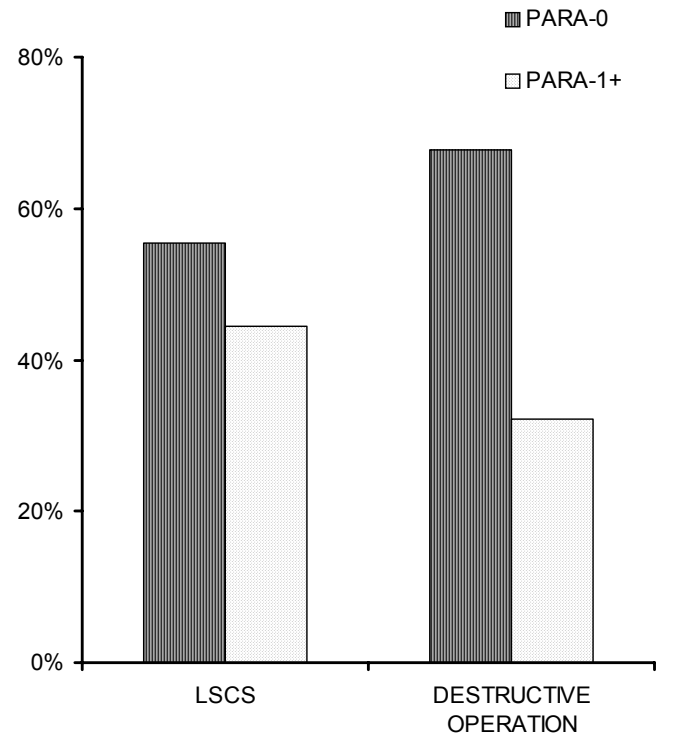


Figure 1 . Management and parity distributions

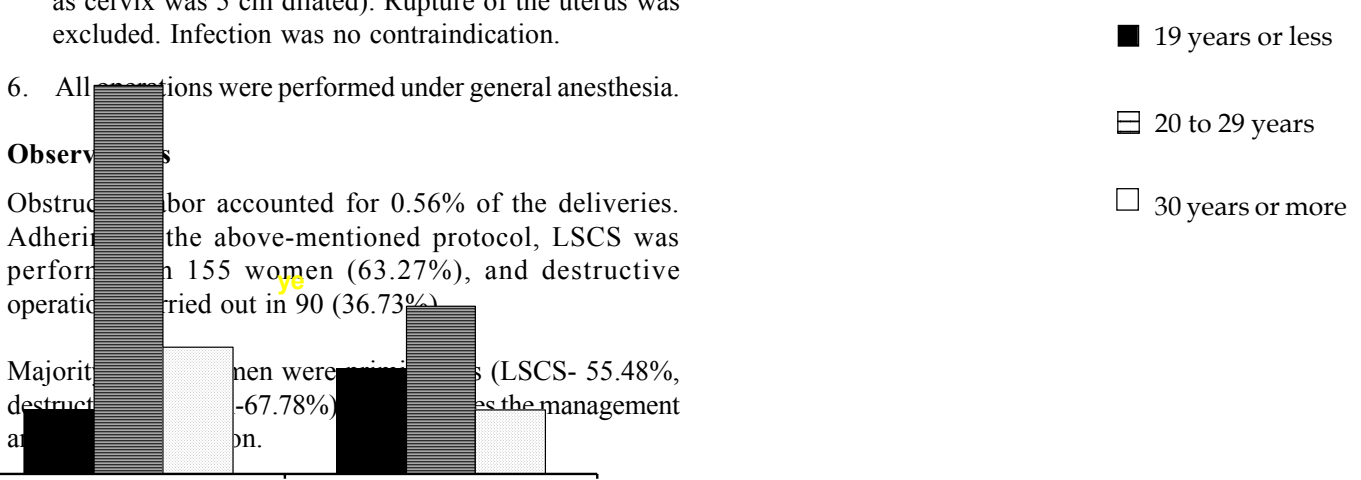


Figure 2 . Age distribution and management

live born babies had poor scores at 5 minutes carrying a chance of brain damage. Five babies (3.57%) could not be resuscitated (Table 1). 12.90% (20/155) of the babies died following LSCS, 12 (7.74%) died at or immediately after birth. (seven died at birth and five within 30 minutes of birth). In 8 cases LSCS was performed on dead fetus.

Table 1. Apgar scores following LSCS

Apgar Scores	>7	4-6	0-3
At birth	49 (35%)	51 (36.43%)	40 (28.57%)
At 5 min.	101 (72.14%)	27 (19.29%)	12 (8.57%)

Note : In 8 LSCS was performed on a dead fetus, 7 babies died during the surgery and 5 babies could not be resuscitated.

We performed craniotomy in 67 women for undiagnosed cephalopelvic disproportion (CPD) in 60, for hydrocephalus in four and for obstructed after-coming head in three. Evisceration was performed in 21 for transverse lie with or without prolapsed hand and decapitation in two for transverse lie with prolapsed hand and accessible neck (Table 2).

Table 2. Destructive operations undertaken and their indications (n=90)

Operation	Number	Indications
Craniotomy	74.44% (n=67)	Undiagnosed CPD (n=60) Hydrocephalus (n=4) Obstructed after-coming head of breech (n=3)
Evisceration	23.33% (n=21)	Transverse lie with or without prolapsed hand
Decapitation	2.22% (n=2)	Transverse lie with prolapsed hand and accessible neck

Maternal mortality was 2.04% (5/245). All deaths followed craniotomy (5/90 or 5.56%). These deaths were however due to complications of eclampsia, and not directly related to the destructive operations. There were no deaths following LSCS.

As far as maternal morbidity was concerned, there were complications in 11 of the 155 (7.09%) cesarean sections performed (Table 3). Following LSCS there was no long-term morbidity though the complications prolonged the hospital stay by a few days. The intraoperative bladder injuries were repaired immediately in two layers and urine

was continuously drained for 14 days. None of the two women developed vesico-vaginal fistula. One patient of broad ligament hematoma had to be opened up again and had to undergo hysterectomy while two others were diagnosed and managed during operation. The infected wounds in four women were dressed regularly and needed secondary suturing.

Table 3. Complications following 155 cesarean sections

Type of Complication	Number	Percent
Urinary bladder injury during operation	2	(1.3)
Broad ligament hematoma	3	(1.93)
Rectus sheath hematoma	2	(1.3)
Wound infection	4	(2.58)
Total	11	(7.09)

Table 4. Complications following 90 destructive procedures

Type of Complication	Number	Percentage
Perineal Tear	5	5.56
Complete Perineal Tear	2	2.22
Vaginal Wall Laceration	6	6.67
Cervical Tear	2	2.22
Vesico-Vaginal-Fistula	2	2.22
Recto-Vaginal-Fistula	2	2.22
Total	19	21.11

Complication occurred in 21.11% (19/90) during destructive operations. Principally they were injuries to the genital tract. Amongst them the perineal, cervical and vaginal injuries were repaired immediately. The fistulas that developed had to be repaired later on. There were no cases of ruptured uterus.

Discussion

The incidence of obstructed labor was 0.56% during the study period and this was lower than 2.3% reported by Dutta² in 1979 and 1.27% by Daffallah et al³ from Sudan in 2003.

This decreasing trend in incidence is probably a reflection of improvement in antenatal and intranatal care.

Obstructed labor being a grave condition, there is no place for wait and watch policy. Most cases (63.27%) were terminated by LSCS while destructive operations accounted for 36.73%. Konje et al ⁴, from Ibadan performed LSCS in 82% and Ozumba and Uchegbu ⁵ from eastern Nigeria did cesarean section in 85%. Thus, in our hospital, LSCS incidence is lower compared to similar studies from other developing countries.

38.37% of these women presented with dead fetuses. 91.49% were delivered by destructive operations and 8.51% by LSCS. Biswas et al ⁶ performed destructive operations in 69.4% and LSCS in 30.6%, while Dutta and Pal ⁷ carried out destructive operations in 51.8%. The most common indication for destructive operations was undiagnosed CPD and that for cesarean section in a dead baby was neglected shoulder presentation. Sahu and Sinha ⁸ had similar experience. Destructive operations in dead or moribund cases have been found superior to LSCS in studies by Gogoi ⁹, and Gupta and Chitra ¹⁰. Amongst destructive operations, craniotomy was performed in 74.44%, evisceration in 23.33% and decapitation in 2.22%. Most (67.78%) of the patients undergoing destructive operations were primigravidas and of the age group of 20-29 years (Figure 1 and 2).

Maternal mortality in our study group was 5/245 (2.04%). All deaths occurred following destructive operations. They however died from complications of eclampsia and were not directly related to the procedures. Maternal mortality rates in other studies were higher than that in our study Dutta and Pal ⁷ reported maternal mortality, of 11.4% and Sahu and Sinha ⁸ 4.3%.

LSCS was followed by complications in 7.09% cases. None of these resulted in any long-term morbidity. There were complications in 21.11% of the destructive operations. Amongst them the perineal, cervical and vaginal injuries were repaired immediately. The fistulas that developed had to be repaired later on.

Following LSCS, 7.74% of the babies died at or immediately after birth. Considering the cases in which LSCS was

performed in dead babies, the total perinatal mortality was 12.90%.

Perinatal mortality in our obstructed labor cases was unacceptably high (106/245;43.27%).

Although 28.57% (39/140) babies born live by LSCS were severely depressed, only 8.57% of the live born babies had poor apgar scores at 5 minutes carrying a chance of brain damage. Only 5 babies (3.57%) could not be resuscitated.

The individualized approach for management of obstructed labor by either LSCS or by a destructive operation according to the situation has by a favorable outcome. However our main aim should be to provide universal good obstetric care and avoid obstructed labor. Education of primary health care providers and traditional birth attendants on dangers of obstructed labor and the need for early referral is suggested to reduce the incidence of this condition. In the present situation the curriculum in teaching hospitals should include training in destructive operations which is useful in advanced obstructed labor cases which we still continue to encounter in our country.

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