

# Obstructed labor – current scenario in a developing country.

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## Abstract

**Introduction:**Obstructed labor with high maternal morbidity and mortality is still prevalent in the developing world. It is a preventable condition and can be overcome if proper steps are taken at appropriate levels and at appropriate time.**Objective:** To study the present burden of obstructed labor in a tertiary care Centre in a developing country, its causes and outcome.**Materials and methods:**Six months prospective study was carried out in Government Lalla Ded Hospital from July 2009 to December 2009. There were 117 cases of obstructed labor amongst a total number of 10862 births during this period in LD hospital. All patients admitted with obstructed labor were included in the study and the outcome of their pregnancy, mode of delivery and complications if any were noted.

**Results:**117 patients of obstructed labor were admitted. CPD was the commonest cause of obstruction (87.18%). Most of the women affected were primigravida within the age group of 25 – 30 years. Most of them were delivered by Cesarean Section. There was no maternal mortality, though there were some procedure related complications. Fetal mortality was high (25.64%).**Conclusion:**Obstructed labor is a preventable condition prevalent in the developing world only. Improving nutrition, antenatal attendance with proper utilization and standard of services will help overcome this condition.

## INTRODUCTION

The term ‘obstructed labor’ indicates a failure to progress due to mechanical problems — a mismatch between fetal size, or more accurately, the size of the presenting part of the fetus, and the mother’s pelvis, although some malpresentations, notably a brow presentation or a shoulder presentation (the latter in association with a transverse lie) will also cause obstruction. Pathological enlargement of the fetal head, as in hydrocephalus, may also (though rarely) obstruct labor<sup>1</sup>. The common causes of this condition are Cephalo-pelvic disproportion (CPD), fetal malposition and malpresentation<sup>2</sup>. In rare cases locked twins or pelvic tumors can cause obstruction<sup>3</sup>. The most famous account of obstructed labor is that of Princess Charlotte of England (1817) who died after delivery of a 9 pound still born baby after 50hrs of labor<sup>4</sup>. Obstructed labor causes 8% maternal mortality in developing countries like India<sup>4</sup>.

## MATERIAL AND METHODS

Six months prospective study was carried out from July 2009 to December 2009 in Government Lalla Ded Hospital, which is the only tertiary obstetric care hospital in the Kashmir valley where cases are referred to not only from

peripheral hospitals and rural areas but also from local general practitioners. Total number of deliveries during this period in LD hospital was 10862. All patients admitted with obstructed labor were included in the study. The number of obstructed labor cases in this period was 117. All these women were referrals from peripheral / rural hospitals. Detailed history including obstetric details of current and previous pregnancy, mode of delivery, maternal and fetal outcome and associated complications were noted.

## RESULTS

The total number of deliveries in this period was 10862 of which cases of obstructed labor comprised 117 (1.07%). Most women with obstructed labor 78/117 (66.67%) in the study group were in the age group 25 – 30 years and mostly primigravidas (46.15%). Multigravidas comprised 35.8% of the cases. 94 women from 117 cases of obstructed labor had not received any form of antenatal care and were uninvestigated. Causes of obstructed labor documented in 102 cases were CPD 102/117 (87.18%) and malpresentation 15/117 (12.82%). No attempt was made to deliver any patient of obstructed labor with malpresentation vaginally as destructive operations are discouraged in our Centre to avoid

maternal injuries. Anemia was present in 59 cases (50.43%).

Vacuum extraction was done in 9 cases (7.69%) and in 108 (92.31%) cases LSCS was performed. Vacuum was applied in the patients with arrest of descent below station 0 or uterine inertia with severe fetal bradycardia or absent fetal heart sounds. Most 7/9 (77.78%) of these babies could not be resuscitated in spite of vigorous resuscitation due to poor APGAR scores. Of the 108 babies delivered by LSCS 38 (35.18%) had an APGAR score of more than 4/10 at birth. 47 (43.52%) had an APGAR score of less than 4/10 and needed immediate resuscitatory measures. All these babies were shifted to the neonatology section for further care. 10 (9.26%) babies born by LSCS did not respond to immediate resuscitative measures and were classified as still born. In 13 cases (12.04%) LSCS was performed for impending uterine rupture despite preoperative documentation of intrauterine dead baby.

During the study period there was no maternal death due to obstructed labor, however, complications causing morbidity did occur. Of the 9 delivered by vacuum 1 (11.11%) lady developed extension of episiotomy to third degree perineal tear which was surgically repaired immediately.

More than one complication was seen in patients who underwent LSCS. 5 (4.6%) had undiagnosed rupture uterus. Total abdominal hysterectomy was performed in all such cases as rupture was irreparable or infected. 16 patients (14.81%) developed primary PPH on table. Conservative methods like oxytocics and uterine packings were successful in 10 cases. Gauze packs used for tamponade were removed vaginally after 24hrs. In 4 cases bilateral uterine artery ligation had to be done and in 2 cases subtotal hysterectomy was performed as conservative measures failed. Superficial wound infection occurred in 10 (9.2%) cases and was treated by daily wound toilet and use of broad spectrum antibiotics till culture specific drugs were started.

## DISCUSSION

Obstructed labor is a life threatening obstetric complication associated with significant maternal as well as fetal morbidity and mortality<sup>5</sup>. Early recognition and immediate intervention is important to prevent the associated complications and improve maternal and fetal outcome. Prior to the advent of antibiotics destructive operations with subsequent vaginal delivery of fetus was procedure of choice as cesarean section was associated with high incidence of peritonitis and septicemia. In modern era with good spectrum of antibiotics available LSCS is the best option for

obstructed labor when come across as the morbidity and mortality is lower. Destructive operations result in high incidence of maternal complications.

The incidence of obstructed labor in our study was 1.08%. Age and parity distribution showed that majority of the women were in the age of 25 to 30 years and were primigravidas, which is similar to the findings of other studies of Adhikari et al<sup>6</sup>, Anjum Ara<sup>2</sup> and Shahida et al<sup>7</sup>.

Destructive procedures are discouraged in our hospital due to high risk of urinary and rectal injuries to the mother. Previous study from this very hospital by Shahida et al<sup>7</sup> advocates LSCS as the complete answer to the women with obstructed labor. Higher incidence of LSCS is noted in our study (92.3%). Shahida had reported LSCS rate of 64.4% in 2003 from the same hospital and Anjum Ara<sup>2</sup> had reported LSCS rate of 84.6%. Adhikari et al<sup>6</sup> reported a much lower incidence of LSCS (64.4%) cases but a higher use of destructive operations (36.6%).

No maternal death seems to be a remarkable achievement over the last few years as Shahida reported 8 maternal deaths from the same hospital in 2003. Anjum Ara<sup>2</sup> reported 4 maternal deaths and Adhikari et al<sup>6</sup> reported 5 maternal deaths respectively.

More than one complication was noted in patients who underwent LSCS. Of the 108 cases that underwent LSCS 5 (4.6%) had undiagnosed ruptured uterus, which has dropped down from 7.2% reported by Shahida<sup>7</sup> in 2003 and 5.2% by Anjum Ara<sup>2</sup> in 2004. Commonest complication was wound infection with febrile morbidity (9.2%). This is higher compared to Adhikari et al<sup>6</sup> who reported it in 2.5% cases. Compared to the previous study of Shahida<sup>7</sup> from the same hospital the incidence of wound infection has gone down (from 31% to 9.2%) probably due to availability of better antibiotics and improved patient care. 1 case of the 9 who delivered vaginally using vacuum extractor developed complete perineal tear which was repaired immediately. Adhikari et al<sup>6</sup> reported perineal tears in 7.7% cases and an incidence of both VVF (vesico-vaginal fistula) and RVF (recto-vaginal fistula) of 2.2%. On follow up we did not have any case of urinary or rectal incontinence which is in contrast to the previous incidence of 1.08% reported in the same hospital by Shahida et al in 2003. This may be due to the age old hospital policy to keep indwelling catheters for 10 days in all cases of obstructed labor and also because no destructive operations were performed.

## **CONCLUSION**

Obstructed labor has become almost obsolete in the developed world. However, it is still prevalent in the developing countries like India where illiteracy and ignorance result in poor antenatal attendance and under utilization of the available facilities. These are further compounded by poor road connectivity resulting in delayed specialized care. Lack of sufficient number of secondary as well as tertiary referral centers that are adequately staffed and equipped is also an important factor for better obstetric care. Most of the cases of obstructed labor are preventable should there be proper antenatal care to all pregnant women and all births attended by trained personnel. Improving nutrition right from childhood, discouraging high parity and improved utilization of available facilities and government schemes will certainly contribute towards reducing incidence of obstructed labor.

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