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## Case Report

# Midwife-assisted management of obstructed labour during second-stage caesarean section using the Patwardhan technique: a case report

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### ABSTRACT

Obstructed labour is a preventable yet life-threatening obstetric emergency that contributes substantially to maternal and perinatal morbidity and mortality, particularly in low- and middle-income countries. Early identification and timely intervention are critical to improving outcomes. Midwives frequently serve as first responders during labour and play a pivotal role in recognizing deviations from normal progress, initiating emergency measures, and coordinating multidisciplinary care. To describe the successful midwife-assisted management of obstructed labour during a second-stage caesarean section using the Patwardhan technique. This case report describes the management of a primigravida woman with second-stage obstructed labour and foetal distress, in whom prompt midwifery assessment using the partograph and rapid escalation of care resulted in an emergency caesarean section performed with the Patwardhan technique. Favourable maternal and neonatal outcomes highlight the essential role of midwives as frontline guardians in obstetric emergencies.

**Keywords:** Obstructed labour, Midwife, Partograph, Patwardhan technique, Second stage caesarean section

### INTRODUCTION

Obstructed labour is a serious form of abnormal labour in which the presenting part of the foetus fails to descend through the birth canal despite adequate uterine contractions, most commonly due to mechanical factors such as cephalopelvic disproportion, malpresentation, or malposition.<sup>1</sup> When not promptly recognized and managed, obstructed labour may result in severe maternal and fetal complications, including uterine rupture, postpartum haemorrhage, sepsis, obstetric fistula, fetal asphyxia, and death.<sup>2</sup> Globally, obstructed labour remains a major contributor to maternal and perinatal mortality in developing countries, accounting for a significant proportion of preventable obstetric deaths.<sup>3</sup> Evidence suggests that many of these adverse outcomes can be avoided through timely antenatal risk identification,

skilled intrapartum monitoring, appropriate nutritional support, and early referral for operative intervention.<sup>1-4</sup> Obstructed labour accounts for 8% of maternal mortality in developing countries. Obstructed labour is the single most important cause of maternal death and is one of the three leading causes of perinatal mortality with the case fatality rate of 87-100%.

Our peripheral hospital needs appointment of qualified personnel and well-trained staff, who can recognize any deviation from normal labour and recognize malpresentation and malposition at the earliest and refer such cases to higher centres.<sup>3</sup> Caesarean section in the second stage of labour is a challenging operation. There is distortion of pelvic anatomy, thinned-out oedematous lower uterine segment and deeply impacted foetal head in the maternal pelvis. The most common indication for

caesarean section in the second stage in our study was non-descent of head (associated with either foetal distress or caput succedaneum), 61% of whom were referred cases. Delivery of the deeply engaged head (found in 30%) depended on the ease of the surgeon. Patwardhan technique was applied in 72% of these.<sup>4</sup>

The Patwardhan Method is a technique used in obstetrics, specifically for the delivery of a deeply impacted fetal head during caesarean section, particularly in cases of obstructed labour where the head is deeply engaged in the maternal pelvis. Patwardhan technique is a unique technique which is used for delivering babies in second stage caesarean sections.

Caesarean sections done at full cervical dilatation with impacted foetal heads are technically difficult and they are associated with an increased incidence of maternal and foetal morbidities. This method helps avoid complications such as, extension of uterine incision, damage to the lower uterine segment, injury to the fetus.<sup>5</sup> Pradip Kumar Saha et al, retrospective analysis study was done of all caesarean sections performed in full dilatation of cervix in 3 years between 2004 to 2006 in PGIMER Chandigarh.

All the cases were divided into two groups. Group 1 being the Patwardhan technique group and Group 2 where baby was delivered as cephalic or as breech. Maternal morbidity in terms of uterine extensions, need for blood transfusions, as well as, neonatal morbidity, was compared between the two techniques.

In this study, Review of 79 patients revealed significantly less number of uterine extensions, as well as, need for blood transfusions with Patwardhan technique, which thus amounted to a decreased maternal morbidity.<sup>6</sup> Clinical outcome of Patwardhan technique is a superior and a safe technique for delivery of foetus in second stage caesarean section as compared to "Push" and "Pull" methods. While foetal complications are comparable in both methods, maternal morbidities are lesser in Patwardhan technique.

The Patwardhan method's primary benefit is that it significantly reduces the risk of maternal injury during a difficult C-section compare to conventional method. Midwives are central to this preventive strategy. Their competencies in pelvic assessment, monitoring labour progress with the partograph, identifying early warning signs, and initiating timely referral are critical to reducing morbidity and mortality associated with obstructed labour.

Descent of head by abdominal palpation, caput and moulding are documented infrequently. These are essential for monitoring of labour. Training and supervision for junior staff in second stage decision-making are important. Having a good infrastructure for management of all complications related to the mother and foetus will help lower their morbidity and mortality.<sup>3,4</sup>

## CASE REPORT

A 24-year-old primigravida (G1P1L1) at 39+6 weeks of gestation was admitted to the labour room of AIIMS Raipur. She had a history of hypothyroidism for the past five years and was on regular treatment. On admission, per vaginal examination revealed a cervix that was 50% effaced and 3 cm dilated, with the foetal head at 0 station and adequate uterine contractions. Artificial rupture of membranes was performed, and oxytocin infusion was initiated for augmentation of labour.

After achieving full cervical dilatation and effacement, a right mediolateral episiotomy was given under local anaesthesia. Vacuum-assisted delivery was attempted but failed to achieve descent of the foetal head. Labour was diagnosed as prolonged second stage with foetal distress, evidenced by a foetal heart rate of 90 beats per minute. Oxytocin infusion was immediately discontinued, and tocolytics were administered. The patient was promptly shifted to the operating theatre for an emergency lower segment caesarean section (LSCS).

Diagnosed as head was deeply engaged, the Patwardhan method was used to deliver the fetal shoulder and head of the baby. The baby was live with cord around the neck and meconium-stained liquor. The immediate management of baby and mother was done. The baby was resuscitated and shifted to NICU and necessary management was done.

### *Intraoperative management and outcome*

Because the foetal head was deeply engaged, delivery was accomplished using the Patwardhan technique. The foetal shoulders were delivered first through the uterine incision, followed by the trunk, with the head delivered last. The neonate was born alive with a nuchal cord and meconium-stained liquor. Immediate neonatal resuscitation was performed, and the baby was transferred to the neonatal intensive care unit for further management. The mother remained hemodynamically stable postoperatively and received appropriate postoperative care. Both maternal and neonatal outcomes were favourable.

### *Role of midwives in obstructed labour*

Midwives act as frontline responders during intrapartum emergencies, particularly in settings where immediate access to specialist obstetric care may be limited. Continuous labour monitoring using the partograph, regular per vaginal examinations, assessment of foetal heart rate, and recognition of prolonged or arrested labour enable early diagnosis of obstructed labour.<sup>3</sup> Prompt communication with obstetricians, discontinuation of inappropriate augmentation, preparation for operative delivery, and emotional support to the woman and family are integral components of effective midwifery-led emergency care.

<b>Immediate Actions:</b>	Initiated management of mother to stop oxytocin infusion and arrange the mother to shifted to OT. Maternal vital signs (BP 112/70 mmHg, HR increased to 80 bpm, RR 20 beats/min).
<b>Team Mobilization :</b>	Called for obstetric and anaesthetic support. Alerted the blood bank for cross-matched blood. Immediate resuscitation of baby Baby immediately shifted to NICU
<b>Supportive Care:</b>	Started IV fluids (Ringer's lactate, 1L rapidly infused). Provided oxygen via face mask. Reassured and emotionally supported the patient and partner.
<b>Escalation of Care:</b>	Assisted in transferring the patient to the OT After delivery baby was immediately shifted to NICU.
<b>Handed over to the obstetric team with full documentation and verbal report</b>	

**Figure 1: Clinical actions delivered by the midwifery team.**

## DISCUSSION

This case illustrates the crucial role of midwives in the early recognition and management of obstructed labour. Continuous monitoring with the partograph enabled timely identification of prolonged second stage and foetal compromise, facilitating rapid escalation of care and prevention of adverse outcomes. Similar findings have been reported in observational studies demonstrating that delays in recognition and referral from peripheral centres significantly increase stillbirth and maternal complication rates. Second-stage caesarean sections with impacted foetal heads are technically challenging and associated with increased maternal morbidity, including uterine incision extensions and haemorrhage.<sup>9</sup> The Patwardhan technique has been shown to reduce maternal trauma and the need for blood transfusion compared with conventional push or pull methods, without increasing neonatal morbidity.<sup>9-11</sup> In the present case, the use of the Patwardhan technique contributed to a safe delivery with minimal complications.

Beyond technical skills, midwives play a vital role in communication, coordination of multidisciplinary care, and provision of emotional support during obstetric

emergencies, reinforcing their position as key guardians of maternal and foetal safety.

## CONCLUSION

Midwives are essential frontline providers in maternal and foetal healthcare and are often the first to respond to obstetric emergencies. Their vigilance, clinical expertise, and leadership in recognizing and managing obstructed labour can substantially reduce maternal and perinatal morbidity and mortality. Ongoing professional education, simulation-based training, and strong collaborative practice models are necessary to enhance midwives' preparedness and confidence in managing life-threatening obstetric situations.

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