ORIGINAL ARTICLE

Maternal Outcome in Persistent Occiput Posterior position during second stage of labor at term; a descriptive study

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ABSTRACT

Background: Occiput posterior position of the fetal head is often encountered, in term pregnant females, during labor. Occiput posterior position can be challenging for obstetricians as it poses dangers to both mother and the fetus.
Aim: To assess maternal outcome in patients with occiput posterior position of fetal head
Methods: We conducted this study at Central Park Medical College Lahore from April 2014 to September 2015. 118 term, laboring females with occiput posterior position of fetal head were enrolled in the study. Age, parity and gestational age were noted. Progress of labor and mode of delivery were decided as per standard protocols. Maternal outcome i.e. mode of delivery and peripartum complications (prolonged labor, excessive blood loss and perineal lacerations) were noted.
Results: Our study showed high incidence of assisted/operative deliveries in patients with occiput posterior position at term (63.4%, $p< 0.001$) as compared to spontaneous vaginal deliveries. Prolonged labor was often encountered in such patients (57.6%). 16.1% patients had excessive blood loss and another 16.1 % developed perineal lacerations.
Conclusion: Occiput posterior position of fetal head can be challenging to manage, for obstetricians. There is a need to extend expertise for the use of instruments like forceps and vacuum to deliver such patients so that peripartum complications may be avoided.
Keywords: Occiput posteriorLabor, Perineal Lacerations, Assisted vaginal delivery

INTRODUCTION

The most common fetal malposition, in term pregnancies during labor, is “occiput posterior” (OP). Many of the occiput posterior fetuses rotate to “occiput anterior” (OA) during the course of labor, even at full cervical dilatation. Still, OP is estimated to have a prevalence of 2% to 10% at delivery[1,2] and is mainly because of the persistence of the initial OP position[3,4].

Transabdominal ultrasonography is an efficient way to perform quick and dependable assessment of fetal head position, during labor, in addition to traditional abdominal (Leopold’s maneuver) and vaginal examination[3,5,6,7].

The consequences of persistent OP during second stage of labor may range from prolonged labor to assisted vaginal deliveries (AVD) to cesarean section[8,9]. There is a greater risk of adverse maternal outcomes including excessive blood loss, perineal lacerations and endomyometritis[10].

Maternal outcome, in terms of mode of delivery and perinatal maternal complications, has not been studied in Pakistan, yet. So, we conducted this study to find out mode of delivery and maternal complications associated with persistent OP position during second stage of labor, in pregnant women at term pregnancy.

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METHODS

We conducted this descriptive study at Obstetrics & Gynaecology Department, Central Park Teaching Hospital Lahore from April 2014 to September 2015, after approval from Institutional Review Board. 118 pregnant females with term pregnancy, who presented with labor pain and had occiput posterior position of fetal head diagnosed by intrapartum ultrasonography, were included in the study. Patients with multiple pregnancy, intrauterine fetal demise, anomalous fetus, history of previous uterine scar or diagnosed comorbidities were excluded from the study. An informed written consent was obtained from all the patients, for the use of their data, after explaining the purpose and method of the study. Patients’ age, parity and gestational age were noted. All the patients were observed for progress of labor. Decisions for instrumental delivery or Cesarean Section were made according to the standard operating procedures of the department. Duration of labor, Mode of delivery and peripartum complications

i.e. excessive blood loss and perineal lacerations were noted.

Statistical analysis: Age of the patients is presented as mean and standard deviation. Gestational age, mode of delivery and peripartum complications i.e. prolonged labor, excessive blood loss and perineal lacerations were analyzed using chi-square test (*p*-value <0.05, for statistical significance) and are presented as frequencies and percentages.

RESULTS

Mean age of the patients was 28.81 years (SD±3.372). Out of 118 patients, 73 (61.9%) were primigravida and only 6 (5.1%) were gravida 5 or above. 61% of the patients had the gestational age of 39 weeks and it was 40 weeks or above in 29.7% of the patients. 36.4% of the patients delivered through spontaneous vaginal delivery (SVD), 12.7% had Forceps delivery and 17.8% were delivered by using vacuum extraction while cesarean section was performed on 33.1% of the patients. Perinatal complications were found to be prolonged labor occurring in 57.6% of the patients, excessive blood loss in 16.1% and perineal lacerations in 16.1% patients. Details of patient characteristics are shown in Table 1.

Table 1: Characteristics of the patients (n= 118)

Characteristics	**Mean**	**Std Deviation**
Age	28.81	3.372
	Frequency	**%age**
Parity		
Nulliparous	73	61.9
Para 1-3	39	33.1
Para 4or more	6	5.1
Gestational age		
38 weeks	11	9.3
39 weeks	72	61.0
40 weeks or more	35	29.7
Mode of delivery		
Spontaneous vaginal delivery	43	36.4
Forceps delivery	15	12.7
Vacuum extraction	21	17.8
Cesarean section	39	33.1
Complications		
Prolonged labor	68	57.6
Excessive blood loss	19	16.1
Perineal laceration	19	16.1

Table 2: Mode of delivery in patients with prolonged labor

Prolonged labor	**Mode of delivery**				**Total**
	Spontaneous vaginal delivery	**Forceps Delivery**	**Vacuum Extraction**	**C-Section**	
Yes	13	13	19	23	68
No	30	2	2	16	50
Total	43	15	21	39	118

DISCUSSION

We conducted this study to assess maternal outcome in full term laboring patients with occiput posterior position of the fetal head, at a tertiary care hospital in suburbs of Lahore. Occiput posterior is the most common fetal malposition at term and is believed to rotate to occiput anterior during the course of labor[11,12]. In their study, Chang YW et al found that 66.89% of the full term laboring patients, with OP position of fetal head, were nulliparous where as 33.11% were multiparous[9]. In our study, 61.9% females were nulliparous and 38.1% were multiparous. In another study, Blasi et al found these proportions to be 71.4% and 28.6% in nulliparous and females respectively[13].

In their study, Ponky et al from USA reported that 37.7% of their patients with OP position delivered through SVD and 24.6% through AVD, whereas 37.7% were delivered through cesarean section (12). Results from present study show that the 36.4% of our patients delivered through SVD and 30.5% through AVD while 33.1% of the patients were delivered through lower segment cesarean section.

In their study, Ponky et al found that prolonged labor occurred in 49.7% of the patients in total[12]. 57.6% of patients in our study had prolonged labor which is a little higher compared to the finding from Ponky et al, but this difference might be due to difference in stature and pelvic structure among the two populations. Stratified analysis (Table 2) of our study results showed that only 19.12% of the patients with prolonged labor delivered through SVD. 23 out of 39 patients (58.97%, *p* <0.001) who had cesarean section, were operated for poor progress of labor and 41.03% had other indications for cesarean section.

Results from our study showed that 16.1% had excessive blood loss and same number of patients had perineal tears. This finding is almost similar to that by reported by Ponky et al (18.2% and 13.6% for perineal lacerations and excessive blood loss respectively)[12].

Results of this study cannot be generalized because of its limitations as the study did not consider other indications for operative deliveries. In addition, we did not compare the mode of delivery to other positions of the fetal head.

CONCLUSION

Occiput posterior position of fetal head is associated with higher rates of assisted and operative deliveries

and complications. Further studies involving patients with fetal head positions other than OP and other indications for operative deliveries are suggested, for comparison and development of protocols for the management of such patients. In addition, it is imperative that obstetrical services providers should be trained enough to manage such patients and in conducting operative/assisted deliveries.

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