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Fetomaternal Outcome in Occipito Posterior Position

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Abstract: ***Background & Objectives: Occipito posterior is an abnormal position of vertex presentation. Its incidence is about 10% of all vertex presentation and have highest chances of maternal and fetal morbidities. The present study is an attempt: 1) To identify occipito posterior position in laboring patients who are admitted in dhiraj general hospital. 2) To assess the maternal and fetal outcome in occipito posterior position. Materials and Method: out of total 560 deliveries 72 patients had occipito posterior position. These patients were taken in the study their labour was monitored and maternal and fetal complications were noted. Results: Rates of c-section and assisted operative vaginal deliveries are high. most of the patients were primigravida. all patients were given episotomy in assisted operative vaginal delivery. Conclusion: Occipito-posterior (OP) presentation is an abnormal position of vertex presentation. Chances of maternal and fetal morbidity are high. Rates of cesarean and assisted operative vaginal delivery are also high. Assisted operative vaginal delivery in Occiput posterior position increases the risk of 2nd and 3rd degree perineal tear. Maternal morbidity, though high, none were serious enough to result in any prolonged complication, with mortality rate being Nil. Peri-natal out come was quite satisfactory, with 100% neonatal salvation. We wish to convey only one point, careful assessment, & vigilant intra-natal care certainly gives 100% satisfactory outcome.***

Keywords: Occipito-Posterior Position, Fetal Morbidities, Maternal Morbidities, Assissted Vaginal Delivery Cesarean Section

1. Introduction

Occipito-posterior (OP) presentation is an abnormal position of vertex presentation wherein the vertex is placed over the sacroiliac joint, Rt. Or Lt, more commonly on Rt. Side. When occiput is placed over right sacro-iliac joint it is termed as right occipito posterior position or third position of vertex and when the occiput is placed over left sacro-iliac joint it is left occipito posterior position or fourth position of vertex. Overall incidence of Occipito-posterior vertex presentation is about 10% of all vertex presentation and in the OP presentation, right occipito posterior position is 5 times more common than left occipito posterior, this is due to dextro rotation of uterus and presence of sigmoid colon on left side.

The operative delivery rate varies from 54% to 82% in OP position as compared with 6% to 22% when the fetus is in OA position, and there is high risk of assisted operative vaginal delivery [3,16,19,20]. Obstetric intervention by forceps and ventouse delivery is associated with complications to the maternal genital tract and neonate, respectively [6-8]. So intra-natal monitoring is important and required in such cases. [2]

Complications of the occiput posterior position

The OP position is associated with more frequent induction and augmentation of labour and prolonged first and second stage of labour [3,17,18,21], instrumental delivery, cesarean delivery, chorioamnionitis, postpartum haemorrhage, third and fourth degree perineal tears, wound infection and endometritis [22,23]. Associated adverse neonatal outcomes include birth trauma, low 5-minute Apgar score, and admission to the neonatal intensive care unit [24].

In OP position, there is prolonged labour due to i) head being deflexed (taking longer time to engage); ii) pelvic capacity being less than normal due to pelvic shape; iii) there being forward rotation by 3/8th of Circle-135 degrees which requires longer time to complete, even in favorable cases; iv) premature rupture of membranes hinders smooth cervical dilatation & effacement.

In about 2-3% cases, particularly in Android pelvis, head rotates by 45 degrees, and, occupies the Transverse diameter, just below level of Inlet, due to Converging side walls and straight sacrum, head descends up to the mid-cavity, and then Fails to rotate further, so head gets stuck in Midcavity. And results in "Deep transverse Arrest".

In about 5% cases, particularly in Android pelvis, head starts descending at the same place, and Right oblique diameter, does not rotate at all, and an arrest occurs at brim level, this results in "Persistent Occipito-posterior."

In 5% cases, in Anthropoid pelvis, as A-P diameter is longer, than transverse Diameter, in this head rotates posteriorly, so that Occiput remains in Hollow of sacrum, and descends in the same place up to the outlet. This can result in vaginal delivery, called "face to pubis" delivery. This type of delivery occurs in favorable conditions i.e. with average baby size, good uterine condition and adequate pelvis such as anthropoid type.

Aims

To know the maternal and fetal morbidities and complications in occipito posterior position.

Objectives

- To identify occipito posterior position in laboring patients who are admitted in dhiraj general hospital
- To assess the maternal and fetal outcome in occipito posterior position.

2. Methodology

This was a prospective observational study, conducted in Obs & Gy department of Dhiraj General Hospital, Piparia, Vadodara, after taking approval from Institutional ethics committee. Patients who visited the Obs & Gy department of Dhiraj General Hospital between the months of July 2017 and Sep 2017, having intrapartum presentation of persistent OP position, providing written informed consent and fulfilling all of below mentioned inclusion criteria, and the exclusion criteria were included in the study. Inclusion criteria for the study were: singleton pregnancy, term pregnancy, cephalic presentation. Exclusion criteria were: cephalopelvic disproportion, previous uterine surgery (e.g. caesarean section, myomectomy), etc., maternal diabetes, preterm pregnancy, twins, known or suspected chorioamnionitis, ante-partum haemorrhage. Vertex presentation was confirmed by performing per vaginal examination. Sonography was also done to confirm different parameters. Details about the patient's delivery, that is normal, instrumental, assisted or caesarean section were noted. patients undergoing normal / instrumental assisted delivery, information on perineal injuries such as lacerations and anal sphincter injuries was noted. Fetal outcome was measured by noting birth weight and Apgar score at 1 minute and 5 minutes.

3. Results

Total 970 patients were admitted in labour room, with labour pains, during study period. Of these 970 patient, 116 patient had foetus in Occipito- posterior position and fulfilled all the criteria of the study. The incidence of OP presentation at onset of labour, in our set up was 11.96%.

The average age of patient at presentation was 22.87 ± 1.93 years. Age wise distribution of the subject was as mentioned in table 1.

Table 1: Age wise distribution of the subjects

Age group	*Number*	*Percentage*
20-22	63	54.31%
23-25	44	37.93%
26-28	09	7.76%
Total	116	100%

Of the 116 patients, 67.24% had parity 1, 28.45% had parity 2 and 4.31% had parity 3 (table 2).

Table 2: Parity of the females

Parity	*Number*	*Percentage*
1	78	67.24%
2	33	28.45%
3	5	4.31%
Total	116	100%

This is because occipito posterior is more common in primipara than in multipara.

This can be explained on one surmise, that all these primipara patients, at age 20-22, still had a suboptimal pelvic capacity, complete pelvic development, still underway, till epiphyseal closure around 23-25 yrs. age. This type of pelvic inadequacy favours an O-P position at labour onset.

Of the total 116 deliveries, 53.45% (n=62) were delivered vaginally, while 46.55% (n=54) were delivered by cesarean section. (Table 3)

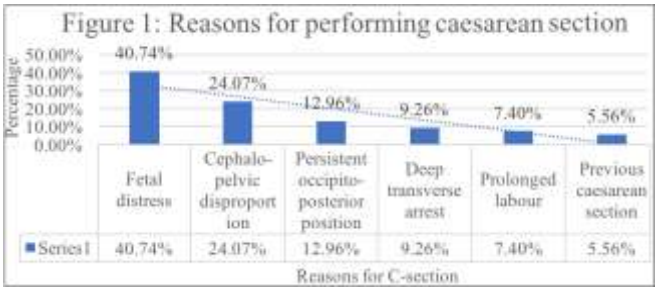
Table 3: Modes of deliveries

Modes of deliveries	Number	Percentage
Vaginal	62	53.45%
Cesarean section	54	46.55%
Total	116	100%

Indications for cesarean section were as summarized in table 4.

Table 4: indications for cesarean section

Reasons	Number	Percentage
Fetal distress	22	40.74%
Cephalo-pelvic disproportion	13	24.07%
Persistent occipito-posterior position	7	12.96%
Deep transverse arrest	5	9.26%
Prolonged labour	4	7.40%
Previous caesarean section	3	5.56%
Total	54	100%



Fetal distress was the most common indication for cesarean section, it was due to meconium stained liquor, premature rupture of membranes, cord around neck. Other indications were cephalopelvic disproportion, persistent occipito posterior, deep transverse arrest, prolonged labour, cesarean section was done in patients with previous cesarean performed less than 18 months ago, borderline cephalo pelvic disproportionate.

Among patients who delivered by vaginal route, 59.7% (n=37) were delivered normally, while vacuum was used for delivery in 30.6% (n=19) cases and forceps was used in 9.6% (n=6) subjects. Episiotomy was given to all patients delivered by vaginal route.

Table 5: Normal and assisted operative delivery among patients who delivered vaginal

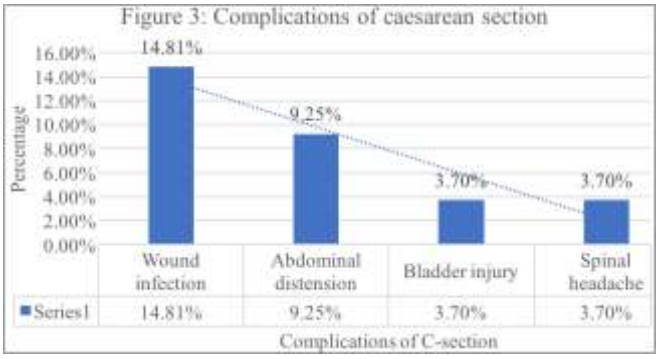
	Number	Percentage
Normal	37	59.7%
Vacuum assisted	10	30.6%
Forceps assisted	6	9.6%
Total	62	100%

In this group, there was one preterm delivery at 34weeks, which delivered by face to pubis, weight of that baby was 2.0 kg and did not require N.I.C.U. admission.

In patients who were delivered by cesarean section, 31.48% (n=17) patients had some post-operative complications. Bladder injury was seen in 3.70% (n=2) cases, wound infection was seen in 14.81% (n=8) cases, headache due to spinal anesthesia was seen in 3.70% (n=2) cases and 9.25% (n=5) patients had abdominal distension.

Table 6: Different morbidities after cesarean section

Complications	Number	Percentage
Wound infection	8	14.81%
Abdominal distension	5	9.25%
Bladder injury	2	3.70%
Spinal headache	2	3.70%
Total	17	31.48%



In the patients who underwent vaginal deliveries, 64.52% (n=40) subjects had 2rd degree vaginal lacerations and none of the subjects had anal sphincter injuries.

Average birth weight of the babies was 2.5 ±0.11 kg with minimum weight being 2.0kg and maximum weight being 3.0kg.

Apgar score at 1 minute and 5minute of all the babies was more than 7.

4. Discussion

OP position is the commonest abnormal position of foetus in utero, with presentation at the time of ion onset of labour. The reported incidence of OP position, & presentation varies from literature to literature. In some literature, the reported incidence is between 5 to 8%, while in the study by Benavides L. et al., the authors found the prevalence of OP positions to be 11.96%, in our set up the observed incidence was 12.86%. [13, 14] .

Majority of the patients were in the age group was 20 to 22 years and had parity 1, this may be because our set up receives from rural area, wherein the females are married at young age and bear child at young age, when possibly the pelvis is possibly under developed due to constant under nourished status, resulting in sub optimal pelvic capacity, favouring an Occipito posterior position.

Cesarean section was carried out in 46.54% of these cases, which is similar to the reported incidence in literature wherein it varies between 54% and 82%. [13].

Gardberg M. et al., reported 87.5% operative deliveries in persistent OP position. [1] However, some of the literatures have reported a lower rate of Cesarean section, as low as 18%. [15]

In our set up the patient and their families were explained about the benefits and risks of cesarean section and assisted operative vaginal deliveries, after that relatives make a conscious decision of opting for delivery by cesarean section after understanding risks and benefits.

Postoperative complications were seen in 31.48% of females who underwent c-section. In the study by Nielsen TF et al, the authors conducted study over a period of 3-years, to determine the type and rate of post cesarean complications and to identify risk factors which predispose to postoperative morbidity. [16].

The overall complication rate was 14.5%. This can be attributed to fact that patients who underwent C-sections were from lower economic class, illiterate and were not maintaining proper hygiene. There are other significant factors that predispose to postoperative morbidity such as duration of labor prior to operation, anemia and obesity, patients with a combination of risk factors have an increased complication rate.

In the current study, infection was the most common complication, this was similar to the findings of Nielsen TF et al, where in the most common complication was infection (13.3%). However the overall incidence was lower compared to current study. [16].

The observed incidence of wound infection was also higher compared to study by Opoien HK et al, wherein the total rate of surgical site infection (SSI) was 8.9%, during an observation period of 30 days post-operatively. [17] However, all the patients responded to antibacterial treatment and recovered without any sequel.

Of these who were delivered through vaginal route, 66.67% had second degree vaginal tears, none of them had 3rd or 4th degree tears, this may be because we give episiotomy in all the females undergoing assisted operative vaginal delivery.

5. Conclusion

Occipito-posterior (OP) presentation is an abnormal position of vertex presentation. Chances of maternal and fetal

morbidity are high. Rates of cesarean and assisted operative vaginal delivery are also high. Assisted operative vaginal delivery in Occiput posterior position increases the risk of 2nd and 3rd degree perineal tear.

Maternal morbidity, though high, none were serious enough to result in any prolonged complication, with mortality rate being Nil. Peri-natal out come was quite satisfactory, with 100% neonatal salvation.

We wish to convey only one point, careful assessment, & vigilant intra-natal care certainly gives 100% satisfactory outcome

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