

Perinatal Outcome in Term Pregnancies with Isolated Oligohydramnios

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ABSTRACT

Objective: To compare the perinatal outcome in pregnancies with isolated oligohydramnios induced at 37 weeks to those with isolated oligohydramnios observed till 40 weeks.

Study Design: Randomized Control Trial (RCT) study.

Place and Duration of Study: This study was conducted at the Gynae/Obs Unit II, Holy Family Hospital, Rawalpindi from February 2015 to July 2015.

Materials and Methods: A total of 144 patients were enrolled (72 patients in each group). GROUP A included pregnant ladies with oligohydramnios for whom induction of labour was done. GROUP B included pregnant ladies with oligohydramnios for whom expectant management was done.

Results: Meconium staining of liquor was positive in 23.61 % of group A and 18.05% of group B babies with a P value of 0.835. Excellent APGAR score in group A and B were seen in 83.33% and 77.77 % of babies respectively with a P value of 0.400.

Conclusion: Perinatal outcome in isolated oligohydramnios induced at 37 weeks is same as with expectant management of isolated oligohydramnios at term.

Key Words: Isolated oligohydramnios, AFI, meconium staining, APGAR score.

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INTRODUCTION

Amniotic fluid volume estimation is a part of fetal surveillance tool.¹ Oligohydramnios is defined as amniotic fluid volume less than expected for gestational age.² Diagnosis is by ultrasound examination and is described quantitatively either by amniotic fluid index [AFI] <5 or deepest vertical pool DVP <2.³ Certain maternal and fetal conditions such as congenital anomalies, hypertension, diabetes, preterm premature rupture of the fetal membranes (PROM) and fetal growth restriction (FGR) may present with oligohydramnios.⁴ Each of this condition can predispose fetuses to adverse outcomes. Placental dysfunction leading to oligohydramnios puts the woman at an increased risk of fetal distress resulting in caesarean

section, low Apgar score, meconium aspiration syndrome and perinatal mortality and morbidity.⁵

Isolated oligohydramnios is the low amniotic fluid volume in an otherwise low risk pregnancy.⁶ Isolated oligohydramnios complicates 1 to 5 % of pregnancies at term.⁷

Good fetal outcome is generally expected in pregnancies with isolated mild or moderate oligohydramnios. Oligohydramnios diagnosed in third trimester is not as sinister as oligohydramnios found in the second trimester.⁸ Oligohydramnios has been linked to compromised fetal status contributing to increased incidence of adverse perinatal morbidity and mortality.⁹ As a result, out of fear delivery is routinely advocated in these otherwise low risk pregnancies.⁶ Recent studies have also narrated isolated oligohydramnios an indication of labour induction and consequent increased risk of operative delivery.¹⁰ Though there are studies showing good perinatal outcome in term pregnancies with isolated oligohydramnios comparable to those of normal AFI consensus is lacking regarding management of isolated oligohydramnios.¹¹ Most of the obstetricians lean toward intervention for isolated oligohydramnios at term.¹² Induction of labour solely for oligohydramnios specially with unfavorable bishop score contributes to high caesarean section rate because of failed induction.¹³

Literature on comparison of active vs expectant management of isolated oligohydramnios is lacking. This study was planned to compare perinatal outcome in pregnancies with isolated oligohydramnios induced at 37 weeks to those observed till 40 wks. Good

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perinatal outcomes without intervention in these low risk pregnancies would support a policy of watchful waiting thus not only reducing the anxiety and cost associated with intervention, but also improving bishop score and eventually success of induction in those who do not go in to spontaneous labour thus contributing towards lower cesarean section rate over all.

Operational Definitions:

- a. Oligohydramnios... Amniotic fluid index less than or equivalent to 5
 - b. Fetal outcome
 - 1. Meconium staining (Yes / No)
 - 2. APGAR score at 5 min after birth
- APGAR Score: Excellent (8-10), Good (6-7), low (<6)

MATERIALS AND METHODS

This RCT study was conducted at the Gynae/Obs Unit II, Holy Family Hospital, Rawalpindi from February 2015 to July 2015.

A total of 144 patients were enrolled (72 patients in each group). GROUP A included pregnant ladies with oligohydramnios for whom induction of labour was done. GROUP B included pregnant ladies with oligohydramnios for whom expectant management was done.

SAMPLE TECHNIQUE: Consecutive non probability sampling

SAMPLE SLECTION:

Inclusion Criteria:

- 1. Singleton pregnancies at 37-40 weeks gestation
- 2. Both Primigravida and multigravida
- 3. Cephalic presentation

Exclusion Criteria:

- 1. PIH
- 2. IUGR
- 3. PROM
- 4. Congenital anomalies

Data Collection Procedure: Patients were enrolled after informed consent from OPD after hospital ethical committee approval, and exclusion criteria were applied. Evaluation was done by history examination and ultrasound findings.

Induction of labour in patients of group A was done using intracervical foleys and tablet prostaglandin E2 vaginally.

During expectant management of group B patients they were followed up in OPD for weekly antenatal checkup to ensure fetomaternal surveillance. Some patients of group B went into spontaneous labour. Some patients of group B needed to be delivered by induction or LSCS due to any other indication at any stage before reaching 40wks of gestation. Some patients who did not go into spontaneous labour were induced at 40 week.

Fetal outcome in both groups was assessed through meconium staining and APGAR score.

Data was duly noted in a preformed proforma.

PROFORMA

Serial Number: _____
 Registration number: _____
 Age in years: _____
 Address: _____
 Gestational age at the time of delivery (weeks): _____
 Parity: _____

Group A Induce	Group B observe
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Neonatal Outcome:

- a) Meconium Staining (Yes/No)
- b) APGAR scoring at 5 minutes:
 - (a) Excellent (8-10)
 - (b) Good (6-7)
 - (c) Bad (<6)

Data Analysis: Data was entered and analyzed by using SPSS version-10. Mean and standard deviation were calculated for quantitative variables such as age, gestational age, parity.

Frequency and percentages were calculated for meconium staining and APGAR score at 5 minute of birth.

Chi-square test was used to compare the meconium staining and APGAR score at 5 minutes in both groups. P-value less than 0.05 was considered significant.

RESULTS

Mean maternal age in group A was 26.10. In group B mean maternal age was 26.31.

In group A 45.83 % of the patients were primigravidas while 54.17% of the patients were multiparas.

In group B 39.43 % of the patients were primigravida while 60.57 % of the patients were multiparas.

In group A n=55 (76.38%) had no meconium staining and n=17 (23.61%) had meconium staining while In group B n=59 (81.94%) had no meconium staining and n=13 (18.05%) had meconium staining as shown in Table 1.

In group A n=60 (83.33%) had excellent APGAR score while n =12 (16.66%) had good APGAR score at 5 minute of birth while in group B n=56 (77.77%) had excellent APGAR score while n =16(22.22%) had good APGAR score at 5 minute of birth as shown in Table 2. In both groups no baby was delivered with poor APGAR score.

Table No.1: Meconium stained amniotic fluid

Meconium stained amniotic fluid	Group A	Group B	P-Value
Positive	17	13	0.835
Negative	55	59	

Table No.2: APGAR score at 5 minute of birth

APGAR score at 5 min of birth	Group A	Group B	P-Value
Excellent	60	56	0.400
Good	12	16	
Poor	0	0	

DISCUSSION

Isolated oligohydramnios in healthy pregnancy at term was thought to be associated with poor outcomes so much so that labour induction was recommended in most of the cases fearing poor perinatal outcomes.¹²

Reason for these fears were studies attributing poor perinatal outcomes to oligohydramnios, though these studies were biased owing to inclusion of pregnancies with congenital defects, pre-eclampsia or intrauterine growth restriction (IUGR), and post-term gestation in their samples. The poor outcomes might just be reflected because of these complications rather than oligohydramnios per se.

There is no evidence that isolated oligohydramnios per se at term is a risk factor for poor outcomes. However, induction for isolated oligohydramnios leads to higher cesarean section rates.

In 2003 Locatelli studied 3,049 healthy pregnant women between 40 and 41.6 weeks of pregnancy¹⁴. Babies born to women with low amniotic fluid were more likely to have birth weights beneath the 10th percentile (13% vs. 6%) but there were no differences between groups as regards meconium staining, meconium aspiration, umbilical artery pH <7, or APGAR scores. There was only one stillbirth (in the normal fluid group) for a true knot in the umbilical cord. These results are comparable to favorable perinatal outcome in my study measured in terms of meconium staining and APGAR score at 5 min of birth. My study results are also comparable to a study by Manzaneres who found that inducing labor for isolated oligohydramnios at term increased Cesarean and operative vaginal delivery rates without any improvement in newborn outcomes.¹⁵

Another study by Rainford¹⁶ found oligohydramnios to be associated with increased risk of labour induction but not to adverse pregnancy outcomes like NICU admission, 5 min APGAR score less than 7. Instead he narrated higher rate of meconium staining in pregnancies with normal AFI as compared to those with oligohydramnios. His study concluded that operative delivery rate was not higher in oligohydramnios group. Similarly, a study by Ashwal¹⁷ also compared adverse pregnancy outcome like Caesarean section /operative delivery due to non-reassuring heart rate (NRFHR), low Apgar score, umbilical artery pH < 7.10, neonatal intensive care admission, meconium aspiration syndrome, intubation or hypoxic-ischemic encephalopathy in pregnancies complicated by

oligohydramnios to pregnancies with normal AFI and found oligohydramnios not to be linked to these outcomes.

Results of my study cannot be generalized as it has small sample size, including patients from one gynae centre. However, looking at the favourable perinatal outcome of my study, a large scale study may be carried out including patients from different centres and such study may help us to reduce intervention policies merely for reduced amniotic fluid volume in otherwise low risk pregnancies at term. Considering recommended gestational age for induction of labour at 41 weeks for low risk pregnancies further studies may be planned where expectant management for isolated oligohydroamnios may be extended till 41 weeks.

CONCLUSION

Conclusion of my study is that expectant management in term pregnancies with isolated oligohydramnios till 40 weeks is safe. Thus by avoiding induction done at poor bishop score solely for oligohydramnios, we can decrease overall cesarean section rate.

Author's Contribution:

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Conflict of Interest: The study has no conflict of interest to declare by any author.

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