

## Perinatal Outcome in Term (37 To 42 Weeks) Pregnancies Associated with Oligohydramnios

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Received: 25-10-2022 / Revised: 25-11-2022 / Accepted: 30-12-2022

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Conflict of interest: Nil

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### Abstract

**Introduction:** Oligohydramnios is a disorder that poses a risk to the health of the foetus, although there are treatments available and more are being tested. Oligohydramnios is linked to perinatal mortality, congenital abnormalities, and more complicated pregnancies. The negative perinatal outcome and the amniotic fluid index (AFI) are inversely correlated. Clinically speaking, oligo hydramnios is defined as having an amniotic fluid index (AFI) of 5 cm or below. It occurs in 3-5% of pregnancies, on average. Sonographic assessment of amniotic fluid index is a reliable and repeatable way of diagnosing anomaly in amniotic fluid volume (AFI) (AFI). Small for gestational age (SGA) risk is frequently increased, along with the likelihood of caesarean sections, meconium stains, low Apgar scores, and NICU admissions.

**Objectives:** The objective of the study was to examine the foetal outcomes in low-risk term oligohydramnios. This research is prospective and descriptive.

**Methodology:** The research was carried out at MGM Medical College & LSK Hospital, Kishanganj for a year, from May 2020 to May 2021. 90 pregnant women with AFI of or less than 5 cm at term were included in the study. 100 pregnant women in the control group had AFI more than 9 cm. The study group and the control group were contrasted. Using chi-square and p-value to analyse the foetal and pregnancy outcomes, specifics such as foetal weight and APGAR scores at 2 and 4 minutes were collected.

**Results:** Delivery method, NICU admission, neonatal deaths, and labour induction. Oligohydramnios is linked to an elevated risk of prenatal morbidity and death as well as a high rate of pregnancy complications. Babies born to oligohydramniotic women typically have low birth weights.

**Conclusion:** However, it can anticipate a safe and positive conclusion, which calls for appropriate foetal observation and frequent antenatal care visits.

**Keywords:** Oligohydramnios, Pregnancies, foetal, Obstetric

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## Introduction

If the amniotic fluid index is less than 5 or if the longest, deepest vertical liquor pocket is less than 2 cm, the pregnancy is classified as oligohydramnios. Sonographic criteria are used to describe whether the amniotic fluid volume has risen or decreased [1]. 1% to 2% of pregnancies are complicated with oligohydramnios [2].

Amniotic fluid's normal index ranges from 8.1 to 20 cms. Borderline oligohydramnios is defined as an amniotic fluid index between 5.1 and 8 cm. The amniotic fluid provides a low-resistance environment for the growth and development of the foetus. It produces a cushioned impact against the uterus's stifling boundaries. It offers sufficient room for the foetal musculoskeletal system to develop, aids in the development of proper lungs, reduces placental growth limitation and umbilical cord compression, protecting the foetus from vascular and nutritional deficits [3].

Oligohydramnios has a higher prevalence of maternal and foetal problems. Uteroplacental insufficiency, preeclampsia, asthma, diabetes, cardiac failure, congenital abnormalities, idiopathic restrictions on foetal development, and foetal hypoxia may all be associated with it. In the absence of any foetal kidney abnormalities or genitourinary blockage, oligohydramnios is assumed to be caused by persistent in utero stress [4]. Oligohydramnios may significantly affect the consequences for the mother and the foetus [5].

In low risk, term pregnancies, the objective of this research was to determine whether low

amniotic fluid was a reliable indicator of perinatal outcome.

## Method:

This case-control prospective study was carried out at MGM Medical College & LSK Hospital, Kishanganj from MAY 2020 to MAY 2021 during a 12-month period. Women who were expecting were split into two groups. 100 women with AFI 6cm and 20cm were included in group B, and 90 consecutive pregnant women with AFI 6cm and low risk pregnancies at term were included in group A. Women who met the following inclusion criteria were excluded from the study: singleton, term, non-anomalic pregnancies with intact membrane evidence of IUGR, prior caesarean section, post-term pregnancies, prior perinatal loss, repeated missed abortions, and medical conditions like Dm, hypertension, and cardiac disease. Age, parity, gestational age, and intact membranes were all matched between the two groups. Using chi square ( $\chi^2$ ) to record pregnancy and perinatal outcomes, all women were monitored until birth. The p value was then determined to assess the statistical significance.

## Results:

100 patients had an AFI > 6CM and 90 patients had an AFI 6CM during the research period. The age range of 26 to 37 years (46.8%) had the highest percentage of females. In the group of women with oligohydramnios, 48% were primigravida. In group A, 20.1% of women underwent a caesarean section, compared to 8.5% in control group (Table 1).

**Table 1: Obstetric and Perinatal Results**

Parameter	Oligohydramnios Group, No. (%)	Control Group, No. (%)
Distress	8 (8.8%)	6 (2.3%)
Cesarean section	19 (20.1%)	25 (8.5%)
Induction	41 (41%)	37 (12.5%)
Birth weight $\geq$ 2.5 kg	28 (28%)	52 (17.5%)
APGAR score $\geq$ 6 at 5 min	7 (4.6%)	13 (4.6%)
Admitted to the NICU	2 (2%)	1 (1%)
Use by	2 (2%)	4 (4%)

The rate of caesarean sections varied significantly between the two groups. A statistical difference in the reason for caesarean delivery between the two groups caused the odd's ratio in oligohydramnios groups to be 2.78 times higher than control groups, and foetal distress in oligohydramnios groups was 4.02 times higher than in control groups. Women in the Oligohydramnios and control groups both had higher rates of SGA, with the SGA rate in the latter group being higher by 1.90%. There was a statistically significant difference in the induction of labour such that it was 3.21 times more common in oligohydramnios than in control groups. However, there was no difference in the incidence of instrument delivery with an APGAR score of less than 6 at 1 or 6 minutes between the two groups. There was no change identified from stage to stage in the NICU.

#### Discussion:

Antenatal monitoring includes measuring the volume of amniotic fluid [6]. In high-risk pregnancies, less amniotic fluid carries an elevated chance of an intrapartum problem [7,8]. Manning and Platt's research on the link between oligohydramnios revealed by sonography and perinatal morbidity and mortality is widely known [9]. According to Garmel et al. and Charu et al., 67% of women with oligohydramnios were nulliparous [10] and 66% of women were [11]. While 49% of women were found to be primigravida. According to Chauhan et al. [12], AFI 5 cm increases the risk of Caesarean delivery for foetal distress and a low apgar score at 5 minutes. In this study, 20.2 percent of women underwent Caesarean delivery. Results from Umber A [14] and Jandial et al. [11] demonstrated that women with low AFI had a considerably higher incidence of Caesarean sections and unsettling foetal heart rates. 20% of the women in this study gave birth via caesarean section. In women with AFI 5cm, Saro et al. [12] observed a significantly increased rate of foetal

distress and low apgar scores. We noted a figure of 9.9%, whereas Golan et al. [13] reported a low apgar score at 5 minutes in 4.6 infants. While we found 5.9% prenatal death, Casy et al. [6] reported 6.4% perinatal death. Meconium staining has its own complications for the baby and is a sign of foetal distress. There was no discernible difference between the incidence of meconium in the two groups in this study. This outcome was in line with certain investigations [14,15].

#### Conclusion:

To conclude, oligohydramnios is linked to an increased risk of perinatal morbidity and mortality as well as a high rate of pregnancy complications. We think that antepartum and intrapartum AFI assessments might be useful in identifying women who require increased antepartum surveillance for pregnancy complications. Women with oligo hydramnios typically give birth to low birth weight babies, but they should expect a safe and healthy outcome provided they receive the necessary foetal monitoring and antenatal treatment on a regular basis.

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