



**ORIGINAL RESEARCH PAPER**

**Obstetrics & Gynaecology**

**STUDY OF PERINATAL OUTCOME IN OLIGOHYDRAMNIOS IN TERM PREGNANCY**

**KEY WORDS:**

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**ABSTRACT**

**INTRODUCTION :** Modern obstetrics is concerned with health and well-being of both mother and the unborn child. Recognition of foetus at risk for death or damage in utero, balancing the fetal risk against the risk of neonatal complications from immaturity, and determining the optimal time and mode of intervention are cornerstones. Quantification of amniotic fluid is an important component of the biophysical profile in USG evaluation of fetal well-being at term. There is an inverse relationship between the amniotic fluid index and the adverse perinatal outcome. Oligo hydramnios is clinical condition characterized by amniotic fluid index (AFI) of 5cm or less. Its incidence is 3-5 % of all the pregnancies an accurate and reproducible method of determining abnormality in amniotic fluid volume (AFI) is sonographic assessment of amniotic fluid index (AFI) It often increase the risk of small for gestational age (SGA) and also the incidence of cesarean section, meconium stained, low Apgar score and Neonatal intensive care (NICU) admission. **Objective:** To determine the perinatal outcome in Oligohydramnios in term pregnancies with AFI ≤ 5cm, identify factors leading to oligohydramnios and determine neonatal complications due to oligohydramnios. **MATERIAL AND METHOD :** This study was a hospital based study on perinatal outcome in term gestation with AFI ≤ 5cm and control group AFI > 5cm. Study was conducted to observe outcome of labour in form of perinatal morbidity and maternal outcome in form of vaginal or cesarean section among study group: About 150 cases in AFI ≤ 5 cms and control group: 150 cases with AFI > 5cm. **RESULTS :** Mode of delivery, NICU admission neonatal death and induction of labour. Oligohydramnios is associated with a high rate of pregnancy complication and increased perinatal morbidity and mortality. Women with oligohydramnios usually have low birth babies. **CONCLUSIONS:** However, we can expect a safe and good outcome for which proper fetal surveillance and regular antenatal care visits are required.

**INTRODUCTION**

Introduction: - "It is agreed that Amniotic fluid represent in great part a transudation from maternal vessel but many authority consider that a portion of it derived from urinary secretion of fetus".

Amniotic fluid has a Vital role in the normal growth of the fetus, Protective milieu for the growing fetus, Muscular and skeletal development Guard against Umbilical cord compression fetal swallowing allows GI tract development.

Oligohydramnios is define as "AFI less than 5cm or Single deepest pocket – below 2cm.", Oligo hydramnios can cause – Uteroplacental insufficiency, Idiopathic IUGR, Fetal hypoxia, Increase LSCS rate and low Apgar score.

**AIMS AND OBJECTIVES**

To determine the perinatal outcome in Oligohydramnios in term pregnancies with AFI ≤ 5cm., To identify factors leading to oligohydramnios., To determine neonatal complications due to oligohydramnios.

**MATERIALS AND METHODS**

This study was a hospital based study on perinatal outcome in term gestation with AFI ≤ 5cm and control group AFI > 5cm, was carried out in Rajkiya Mahila Chikitsalaya, Department of Obstetrics & Gynaecology, JLN Medical College, Ajmer, during the period of January 2019 – December 2019. Ethical clearance was obtained for this study from the institution.

**INCLUSION CRITERIA:** Singleton pregnancy with Gestational age >37 weeks, Pregnancies without anomaly with intact membranes, AFI ≤ 5

**EXCLUSION CRITERIA:** Singleton pregnancy with gestational age <37weeks, Patients with multiple gestation, Patients with fetus having congenital anomamlies like renal agenesis, polycystic kidney disease, Ruptured membranes or draining PV, Polyhydramnios

**SAMPLE SIZE:**

Study was conducted to observe outcome of labour in form of perinatal morbidity and maternal outcome in form of vaginal or cesarean section, Study group: About 150 cases in AFI ≤ 5 cms, Control group: 150 cases with AFI > 5cm

History about the patient's age, obstetric code, gestational age, menstrual history, obstetric history, associated complications in present pregnancy was noted. Symphysio-fundal height was measured in centimeters. Fetal movements and fetal heart rates was recorded serially. Blood investigations – hemoglobin, blood grouping and typing, cell counts, blood sugar, urine analysis, HIV, VDRL, USG, Doppler, NST was done. Speculum and per vaginal examination was done to rule out draining per vaginum and confirmed intact membranes. After taking informed consent patients were treated. Iron, calcium, and multi vitamin supplements was continued orally as per protocol. AFI measurements were done. These women were followed till discharge.

Decision of delivery by vaginal route or elective/ emergency LSCS was done as required. Some patients were already in labour and others allowed going into spontaneous labour. If delivery was done by caesarean section, the indication was recorded. A pre designed study proforma was filled for each case.

**OUTCOME:**

The outcome measures was CTG changes, mode of delivery, presence of meconium, APGAR score at 1 minutes and 5 minutes

**Primary outcome:**

Fetal distress as defined by any one or more of the following criteria. Recurrent variable deceleration, Late deceleration, Prolonged bradycardia, APGAR score ≤ 6 at both 1 and 5 minutes.

**Secondary outcome:** Mode of delivery – instrumental or

cesarean section for fetal distress, Meconium staining of amniotic fluid, Need for amnio infusion, NICU admission

**METHODS:**

An ultrasound examination was done to monitor fetal wellbeing and assess amniotic fluid index and it was measured by Phelan's technique.

A curvilinear transducer was used. The uterus was divided into four equal quadrants – the right and left upper and lower quadrants respectively through the maternal midline vertically and an arbitrary transverse line between symphysis pubis and upper edge of uterine fundus.

Transducer placement was parallel to maternal sagittal plane and perpendicular to maternal coronal plane.

Image frozen at the clear deepest pocket of amniotic fluid. This pocket was measured using ultrasound calipers in a vertical direction. It is repeated in each of the four quadrants and summation of the four values gives AFI. Patients were grouped according to their AFI, study group with AFI ≤ 5 cm, and control group with AFI > 5 cms.

**RESULTS**

**TABLE: 1 DISTRIBUTION ACCORDING TO MODE OF DELIVERY**

Mode of delivery	Study		Control	
	No	%	No	%
Vaginal Delivery	66	44%	91	60.67
LSCS	84	56%	59	39.33
Total	150	100	150	100

**Table – 2. Distribution according to Neonatal outcome**

NEONATAL OUTCOME				
Neonatal Outcome	Study Group		Control Group	
	No	%	No	%
REACTIVE NST (R-NST)	102	68%	126	84%
NEONATAL DEATH	2	2%	NIL	
NON REACTIVE NST (NR-NST)	48	32%	24	16%
NEONATAL DEATH	8	16%	1	4%

In the study group, 68% babies had reactive NST and 32% babies had non- reactive NST. Among this, neonatal death occurred in 2% of babies with reactive NST, and 16% of babies with non-reactive NST.

In control group, 84% babies had reactive NST and 16% babies had non- reactive NST. Among this, there was no death with reactive NST and 4% neonatal death among babies with non-reactive NST.

**Table – 3 Final outcome on study population**

Final outcome	case	control
Normal	115 (76.6)	139(92.7)
Death	9(6)	1(0.7)
IUGR	26(17.3)	10(6.6)

P – 0.001

Neonatal death occurred in 6% of study group and 0.7% of control group.

**Table - 4 Cause of Death in Neonatal**

Cause of Death	No. of Patients
RDS	4
meconium aspiration syndrome	1
recurrent seizures and meningitis	1
IUGR and pulmonary hemorrhage	1
sepsis	1
shock and TOF with PHT	1

In 9 died neonates 4 patients was died due to RDS and 1 patient each died due to meconium aspiration syndrome, recurrent seizures and meningitis, IUGR and pulmonary hemorrhage, sepsis, shock and TOF with PHT

**Table – 5 Maternal Complications in both groups**

Maternal Complications	Study Group		Control Group	
	No.	%	No.	%
Abruptio placentae	9	6	4	2.67
PPH	8	5.33	6	4
Puerperal sepsis	1	0.67	0	0
Wound infection	3	2	2	1.33
UTI	7	4.67	3	2

In study group 28 patient & 15 patient in group B developed complication. 9 cases in group A and 4 in group B developed Abruptio Placentae. 8 cases in group A and 6 in group B developed PPH. 1 case in group A and 0 in group B developed puerperal sepsis. 3 cases in group A and 2 in group B developed wound infection. 7 cases in group A and 3 in group B developed UTI.

**Table – 6 Distribution according to Age, Gestational Age & AFI**

Variable	case	Mean	Std. Deviation	Std. Error Mean	T statistic	p
Age	case	23.96	3.227	.263	-2.339	0.02 (S)
	control	24.85	3.337	.272		
Gestational Age in weeks	case	38.36	1.485	.121	-0.538	0.591 (NS)
	control	38.44	1.052	.086		
AFI	case	3.97	.811	.066	-38.502	<0.0001(S)
	control	8.09	1.023	.084		

The above table shows that the mean of age in case group was 23.96 and in control was 24.85 which was higher than cases and the p value was statistically significant (p = 0.02). The mean of Gestational age in case group was 38.36 and in control was 38.44 and the p value was statistically not significant (p = 0.591). The mean of AFI in case group was 3.97 and in control was 8.09 which was higher than cases and the p value was statistically significant (p < 0.0001).

**DISCUSSION**

This study was conducted on pregnant women of the gestational age of >37 wks admitted to RMC, JLN Medical College, Ajmer.

In this study, we had 150 cases in the study group with AFI : S 5cm. And the control group had 150 cases with AFI > 5cm.

Group A - AFI ≤ 5cm

Group B - AFI > 5cm

This study was carried out to determine and compare the usefulness of AFI in predicting the adverse perinatal outcome.

The various outcomes and results were compared to results of similar studies done in India & abroad.

In the study group, 26 patients had pre eclampsia, 27 cases had postdated pregnancy, and 14 cases were with breech presentation.

In control group, 20 patients had pre eclampsia, 13 cases had postdated pregnancy and 3 cases were with breech presentation.

The mean gestational age in the present study is 38.36 weeks in group A and 38.44 weeks in group B which is comparable with mean gestational age of 37.5 weeks in the study conducted by Cassey et al.

**Admission to NICU**

The incidence of admission to NICU was 52% in group A as compared to 18% in group B and this is consistent with studies by Megann 1999<sup>53</sup> (7%) and Cassey et al<sup>2</sup> (7.6%) however the results is not consistent with studies by Sriya R et al (88%).<sup>50</sup> Thus in group A there was significant correlation to NICU admission. Occurrence of perinatal death was 6% in oligohydramnios group comparable to 5% in a study by Cassey et al.<sup>2</sup>

### CONCLUSION

Oligohydramnios is associated with high rate of pregnancy complication and increase perinatal morbidity and mortality, AFI assessed antepartum, and intrapartum would help to identify women who need increase antepartum surveillance for pregnancy complication, Women with oligo hydramnios usually has low birth babies but can expect the safe and good outcome for which proper fetal surveillance and regular antenatal care visits are required.

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