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A STUDY OF IMPACT OF OLIGOHYDRAMNIOSON FETAL OUTCOME

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ABSTRACT: Our purpose is to determine whether oligohydramnios has an impact on fetal outcome, increasing neonatal morbidity. We performed a prospective analysis of 138 cases of oligohydramnios diagnosed at term, out of 2180 antenatal cases. IUGR (42%), Non-reassuring FHR (60%), malpresentations (15%), meconium stained liquor and neo-natal admissions (42%) were increased with oligohydramnios. Our study show drastic increase in cesarean deliveries (44%). The management of oligohydramnios includes individualized care and strict intrapartum monitoring is required considering maternal and fetal risk factors.

KEYWORDS: Oligohydramnios.

INTRODUCTION: Oligohydramnios is defined as more than two standard deviations below the mean for the specific gestational age. Although less than the fifth percentile value for the gestational age is recommended for screening. Sonographically oligohydramnios is defined as Amniotic fluid index < 5cms or lacking single pocket of 2 cms, affecting 3-5% of pregnancies at term.

Evaluation of AFI provides important Information about fetal renal and placental function, which is a key component of fetal Bio-physical assessment.

Significant oligohydramnios results in compression of the fetus marked crowding of fetal parts, poor definition of fetal parts and poor definition of fetal interfaces.¹

METHODS: A prospective, non-interventional study, in which women attending the Antenatal clinic at Sangameshwar Hospital attached to M. R. Medical College, Gulbarga. This study was carried out between October-2010 to September 2012, i.e. two years. 138 patients were diagnosed with oligohydramnios out of 2180 antenatal cases. All these patients with term oligohydramnios diagnosed on ultrasonography performed for screening purposes or clinically indicated. Amniotic fluid volume was assessed by measurement of amniotic fluid index <5 were recruited for the study.

AIMS AND OBJECTIVES:

1. Oligohydramnios as a predictor of perinatal outcome in uncomplicated term pregnancy.
2. Comparison of fetal outcome in spontaneous and induced labour with term oligohydramnios.
3. Incidence of IUGR in term oligohydramnios.
4. To know the incidence of vaginal or abdominal delivery in term oligohydramnios, irrespective of spontaneous or induced labour.

INCLUSION CRITERIA: A Singleton, live non-anomalous term fetus on ultrasonography, modified biophysical profile >6 and delivery occurring within 48 hours of last antenatal surveillance test, that is modified biophysical profile.

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EXCLUSION CRITERIA: Term PROM, maternal risk factors- overt diabetes mellitus and hypertension, intra-uterine death, post-term pregnancy, uterine anomalies, multiple gestation, advanced maternal age, premature separation of placenta.

< 20 yrs	25	Primigravida	75%
21-30	103	G ₂	33%
31-40	10	>G ₃	30%

Table 1: Age & Parity

The gestational age at delivery is between 20yrs & 30yrs. The rate of null parity is significantly more in < 20yrs as shown in table 1.

Normal	80	138	58%
IUGR	58	138	42%
Non-reassuring FHR	82	138	60%

Table 2: IUGR and non-reassuring FHR

In uncomplicated pregnancies oligohydramnios is independently associated with a higher risk of low birth weight centile and 60% had non-reassuring FHR as shown table 2.²

Cephalic	118	85%	Spontaneous onset	47	34%
Transverse	03	02%	Induction	30	22%
Breech	17	13%	LSCS	61	44%

Table 3: Fetal presentation & labour outcome.

The patients presented with transverse lie (2%), breech presentation(13%). Of which 22% were induced and 44% underwent LSCS as indicated in table 3.

Less than 14% had AFI < 2 & 86% had AFI <5 and 34% had high resistance flow and low biophysical profile.³

Nineteen patients were induced and 39 went into spontaneous labour.

1.Meconium stained liquor	32%
2.Non-Reassuring NST	60%
3.Colour Dopler –flow study	34%
4.Low –Birth Wt/IUGR	42%
5.NICU admission	41%

Table 5: Perinatal outcome

Adverse Perinatal outcome such as low birth weight (42%), low apgar scores, small for – gestational age newborns, meconium staining (32%), cesarean delivery, neonatal intensive care (41%) & neonatal death particularly in pregnancies with term oligohydramnios⁴ as shown in table 5.

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Locatelli A et al., evaluated the effect of oligohydramnios on perinatal outcome, which is independently associated with higher risk of low birth weight centile.⁵

DISCUSSION: Antepartum fetal surveillance with a non- stress test and an assessment of amniotic fluid has become an integral component in the management of pregnancies at a risk for adverse perinatal outcome.

The AFI is a reliable indicator of amniotic fluid volume and AFI of ≤ 5 cm on antenatal testing of patients with term pregnancies has been associated with adverse perinatal outcome.

Meconium stained amniotic fluid was found in 32% of pts with amniotic fluid ≤ 5 cm and has been reported by many investigators to be increased in patients with AFI ≤ 5 cm. (Baron et al 1995, Rutherford et al 1987).

Neonatal complications were common in oligohydramnios group, and these were low birth weight and NICU admission. In our study it accounted for up to 42% and 41% respectively.

Abnormal intrapartum CTG was also noted in oligohydramnios. About 60% of the subjects showed NRFHR pattern, 22% were induced and 44% underwent LSCS. 2% of the patients presented with transverse lie and 13% with breech presentation.⁶

Many reasons have been suggested for the association between reduced amniotic fluid volume and poor outcome and this can be attributed to:

1. It may reflect a decreased fetal contribution to amniotic fluid pool as a result of chronic intrauterine stress leading to hypoxia.
2. Reduced amount of amniotic fluid around fetus may predispose to cord compromise
3. Poor fetal outcome.
4. Malpresentation.

CONCLUSION: Detailed history, clinical examination, and ultrasound assessment of the fetus are necessary to determine the course:

Reduced liquor volume is associated with fetal heart rate abnormalities.

The risk of hypoxia increases during labour and passage of meconium is common.

Labour should be regarded as high risk and continuous fetal monitoring should be employed to improve the perinatal outcome.

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