



STUDY OF PERINATAL OUTCOME IN OLIGOHYDRAMNIOS IN TERM PREGNANCY

Obstetrics & Gynaecology

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ABSTRACT

Aim and Objective: To determine the perinatal outcome in oligohydramnios in term pregnancies with AFI<5cm **Materials And Methods:** Present study is a hospital based study on perinatal outcome in term gestation with AFI <5cm was carried out in Department of Obstetrics & Gynaecology. Ethical clearance was obtained for this study from the institution. **Results:** Fetal distress is seen in 35% study population, 36% needed induction of labour, 46% had meconium stained liquor, 80% had APGAR >7 at 5minutes **Conclusion:** Oligohydramnios is one of the indicators of poor perinatal outcome. It is associated with fetal heart rate abnormalities, meconium staining of liquor, umbilical cord compression, poor tolerance of labour, low APGAR score.

KEYWORDS

INTRODUCTION

- The amniotic fluid is the fluid that collects within the amniotic cavity surrounding the embryo
- It helps to keep the baby warm and provides lubrication
- Amniotic fluid also lets the baby move easily so that baby can exercise and strengthen its bones and muscles.
- It acts like a liquid shock absorber for the baby by distributing any force that may push on the mother's uterus.
- It provides Physical space for fetal movement which is necessary for musculoskeletal development.
- It permits fetal swallowing essential for GIT development
- It helps for fetal lung development
- It guards against umbilical cord compression and protects the fetus from trauma.
- Oligohydramnios, is associated with increased pregnancy complication, congenital anomalies and perinatal mortality
- There is an inverse relationship between the amniotic fluid index (AFI) and the adverse perinatal outcome
- Oligohydramnios clinical condition characterises by amniotic fluid index (AFI) of 5cm or less
- Its incidence is 3-5 % of all the pregnancies
- It may be associated with uteroplacental insufficiency, idiopathic fetal growth restriction (IUGR), premature rupture of the fetal membranes, fetal hypoxia, meconium stained fluid and or post maturity syndrome
- Sequel of oligohydramnios can be fetal demise, pulmonary hypoplasia, facial and skeletal deformities.
- Reduced amniotic fluid may predispose to umbilical cord occlusion and increase the risk of fetal hypoxemia and will affect the Apgar score of baby at birth
- It often increase the risk of small for gestational age (SGA) and also the incidence of caesarean section, meconium stained, low apgar score and Neonatal intensive care (NICU) admission

Type Of Study: Prospective study conducted in ASRAM, during the period from October 2022 to December 2022. 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 20 cases which AFI <5 cms

Inclusion Criteria

- Singleton pregnancy with Gestational age >37 weeks
- Pregnancies without anomaly with intact membranes
- AFI<5 cms

Exclusion Criteria

- Singleton pregnancy with gestational age <37weeks
- Patients with multiple gestation

- Patients with fetus having congenital anomalies like renal agenesis, polycystic kidney disease
- Ruptured membranes or draining PV
- Polyhydramnios

METHOD

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 are grouped according to their AFI, study group with AFI <5 cm, and control group with AFI > 5 cms.

The outcome measures will be

- CTG changes
- Presence of meconium
- APGAR score at 5 minutes

Primary Outcome

Fetal distress as defined by any one or more of the following criteria.

- Recurrent variable deceleration
- Late deceleration
- Prolonged bradycardia

Secondary Outcome

- Mode of delivery –induced or spontaneous, instrumental or cesarean section for fetal distress
- Baby weight
- Meconium staining of amniotic fluid
- APGAR score at both 1 and 5 minutes.

RESULTS

Table 1: Age Distribution

AGE	NUMBER	PERCENTAGE
<20years	2	10%
20-30years	17	85%
>30years	1	5%
TOTAL	20	100%

Most patients in this study belong to the age group of 20-30 yrs.

Table 2: Gestational Age

GESTATIONAL AGE	NUMBER	PERCENTAGE
37 weeks	7	35%
38 weeks	6	30%
39 weeks	2	10%
40 weeks	1	5%
>40weeks	4	20%

Most pregnancies in study group were delivered by 37 completed weeks(35%)

The incidence of postdated pregnancies are more in study group(20%)

Table 3: Onset Of Labour

ONSET OF LABOUR	NUMBER	PERCENTAGE
INDUCED	7	35%
SPONTANEOUS	13	65%

Labour occurred spontaneously in 64% of study group

Labour was induced in 36% of study group

Table 4: Colour Of Liquor

COLOUR OF LIQUOR	NUMBER	PERCENTAGE
CLEAR	11	55%
THIN MECONIUM	4	20%
THICK MECONIUM	5	25%

Liquor was clear in 54% in study group

It was thin meconium stained in 20% of study group

It was thick meconium stained in 26% of study group

Table 5: Baby Weight

BABY WEIGHT	NUMBER	PERCENTAGE
BELOW 2 kg	5	25%
2-2.5 kg	4	20%
2.5-3 kg	10	50%
3 kg and above	1	5%

Among the study group 25.3% babies were <2kg

Table 6: Apgar

APGAR	NUMBER	PERCENTAGE
BELOW 4	1	5%
4-7	3	15%
7 AND ABOVE	16	80%

APGAR score was above 7 in 80% patients in study group

Table 7: Neonatal Outcome

NEONATAL OUTCOME	NUMBER	PERCENTAGE
REACTIVE NST	13	65%
NON REACTIVE NST	7	35%

NST was reactive in 13 in study group

DISCUSSION

Oligohydramnios with AFI < 5cm can lead to an increase in perinatal mortality and morbidity. Under these conditions, there is increased frequency of meconium stained liquor, fetal distress, low apgar scores, abnormal fetal heart rates.

Casey & coworkers (2001) conducted a study on pregnancy outcome after diagnosis of oligohydramnios, and found that there was an increase in induction of labour (42% over 18%), nonreassuring fetal heart rate patterns (48% vs 39%), NICU admission (7% over 2%), MSAF (1% over 0.1%), neonatal death rate (5% over 0.3%) associated with oligohydramnios.

Chamberlain & coworkers 1993, found there was a significance between incidence of congenital anomaly, IUGR related to amniotic fluid volume.

Youseef et al 1993 conducted a study on measurement of AFI and fetal outcome and found AFI more than 5cm had better chance of predicting a good fetal outcome. Oligohydramnios is being detected more often these days due to routinely performed obstetric USG.

Golan & coworkers (1994) assessed fetal outcome in 145 babies with

oligohydramnios and found increased incidence of fetal distress, MSAF (29%), IUGR (24.5%), breech (17%), birth asphyxia (11.5%).

Chauhan S P & coworkers (1999) found increased risk of caesarean delivery with antepartum and intrapartum AFI 5cm, due to fetal distress and such babies had low apgar score at 5 mins.

Baron and coworkers (2000) compared patients with AFI 5cm with normal AFI patients. Oligohydramnios resulting in caesarean section due to fetal distress was studied and found to have sensitivity of 78%, specificity of 74%, positive predictive value of 33%, negative predictive value of 95%.

Locatelli A 2004 suggested that oligohydramnios was associated with high risk of low birth weight in postdated pregnancies

CONCLUSION

- Oligohydramnios is one of the indicators of poor perinatal outcome.
- It is associated with fetal heart rate abnormalities, meconium staining of amniotic fluid, umbilical cord compression, poor tolerance of labour, low APGAR score and fetal acidosis.
- Pregnancy induced hypertension, postdated pregnancies are the commonest causes of reduced amniotic fluid during third trimester of pregnancy.
- Oligohydramnios with reactive NST is associated with good prognosis.
- Oligohydramnios with nonreactive NST needs careful monitoring and results in early delivery, increased incidence of caesarean delivery for fetal distress, NICU admission, low APGAR score at 5 mins, and neonatal death.
- Mode of delivery depends on severity of oligohydramnios and status of fetal wellbeing.
- Caesarean section is mostly required for cases with anhydramnios with intrapartum fetal heart abnormalities. Babies are relatively more prone for certain complications like intrapartum fetal distress, MAS, and birth asphyxia.
- Oligohydramnios associated with IUGR carries a poor perinatal outcome (increased neonatal death, NICU admission, increased rate of caesarean section for fetal distress, very low birth weight). Hence they need good neonatal care.
- From this study, we conclude that oligohydramnios is a high risk pregnancy and proper antepartum care, intensive fetal surveillance and intrapartum care are required in patient with oligohydramnios.
- Every case of oligohydramnios needs careful antenatal evaluation, parental counselling, individualization, decisions regarding time and mode of delivery.
- Continuous intrapartum fetal monitoring and good neonatal care are necessary for better perinatal outcome.

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