

## OLIGOHYDRAMNIOS: -A COMMON PROBLEM WITH INCREASING INCIDENCE IN TERM PREGNANCY AND ITS FETOMATERNAL OUTCOME

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### Abstract

**Background**-Amniotic fluid surrounding the fetus is an important biophysical marker of fetal wellbeing. As per definition of liquor amnii, amniotic fluid index less than 5 cm is known as oligohydramnios. Oligohydramnios is commonly observed obstetric problem in term pregnancy which is associated with meconium-stained liquor, abnormal fetal heart rate, low APGAR score, NICU admission, birth asphyxia and increasing chances of caesarean birth. **Objective:**To study the pathophysiology of oligohydramnios and fetomaternal outcome in women with singleton pregnancy with AFI <5. **Methods:** A study of total 50 cases of oligohydramnios at term pregnancy were done over a period of 6 months. **Result:** In present study oligohydramnios with term pregnancy had incidence of 3.3%. 50% patients were in age group of 25-30. 48% women were between of 39-40 weeks gestational age. The associated complications were pregnancy induced hypertension in 30% patients, IUGR in 22%. 26% women were primi gravida and 74% were multigravida.42% delivered vaginally and in 58% of patients caesarean section was done. Perinatal mortality in this study was 10%. **Conclusion-**Oligohydramnios has increasing incidence due to increasing age of the patients and routinely performed obstetric ultrasonography in full term patients to know the amount of liquor and proper growth of baby. Fetomaternal outcome can be improved by careful antenatal evaluation and good neonatal care.

**KEY WORDS-** AFI, Fetomaternal outcome, Oligohydramnios

### Introduction

As per definition of liquor assessment, an AFI less than 5 cm is known as oligohydramnios. Oligohydramnios is most frequent third trimester complication resulting in a greater number of caesarean sections due to fetal risk.

The reported incidence of oligohydramnios varies between 0.5%-5%. The common etiological factors associated with oligohydramnios are congenital abnormalities and placental insufficiency. The perinatal morbidity and mortality are due to fetal distress, low APGAR score and meconium aspiration syndrome in the fetus. The possible explanation of increased

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perinatal morbidity and mortality could be due to umbilical cord compression, potential uteroplacental insufficiency and increased incidence of meconium-stained amniotic fluid along with oligohydramnios. Hence the present study was carried out to find out incidence and fetomaternal outcome in term pregnancy with oligohydramnios.

### **Objectives**

- 1) To study pathophysiology of oligohydramnios.
- 2) To study causes of oligohydramnios
- 3) To study maternal and fetal outcome

### **Materials and Method**

#### **Study design:**

The present study is prospective interventional longitudinal single centered study at tertiary care hospital.

**Study period:** October 2020 to March 2021

During this study period total 50 cases of term pregnancy with oligohydramnios and AFI<5 fulfilling inclusion and exclusion criteria were selected at our tertiary care centre.

#### **Inclusion criteria**

1. Patients with gestational age 37-41 weeks.
2. Singleton gestation with cephalic presentation.
3. Patients with no complain of leaking per vaginum
4. AFI <5

#### **Exclusion criteria**

1. Patients with gestational age less than 37 weeks
2. Multiple gestation
3. Patients with PROM

#### **Method of data collection**

Data were collected from labour room, Indoor Patients, neonatal units. Predesigned record sheet was filled up.

### **Results**

In the present series there were 50 confirmed cases of term pregnancy with AFI<5 out of 1500 deliveries giving an incidence of 3.3%.

**Table 1: Age distribution**

Age in years	No of patients	Percentage (%)
<20 years	4	8%
20-25	11	22%
25-30	25	50%
>30	10	20%

Table 1 represents that 50% of woman with oligohydramnios were in age group 25-30 years. 8% were still in teenage group , 22% were in 20-25 years of age and 20% were in >30 age group. This reflected that maximum patients were included in 25-30 years age group which is considered as reproductive age.

**Table 2: Gestational age**

Gestational age	No of patients	Percentage (%)
37-38	5	10%
38-39	8	16%
39-40	24	48%
40-41	13	26%

Table 2 shows maximum patients of oligohydramnios were between 39 to 40 weeks and 40-41 weeks i.e., 48% and 26% respectively.

**Table 3: Amniotic fluid**

AFI	No of patients	Percentage (%)
<1	3	6%
<2	1	2%
<3	4	8%
<4	20	40%
<5	22	44%

Table 3 shows out of 50 patients,22 patients had liquor <5. Early diagnosis by ultrasonography and immediate treatment helped in better fetal outcome.

**Table 4: Parity**

Parity	No	Percentage (%)
Primi gravida	13	26%
Multi gravida	37	74%

Table 4 shows by parity 26% women were primigravida and 74% were multigravidas. This reflects the increasing age of female is related to oligohydramnios.

**Table 5: Associated Maternal and Fetal conditions**

Variables	No of cases	Percentage (%)
Pregnancy induced hypertension	15	30%
Intrauterine growth retardation	11	22%
Fever	3	6%
Fetal anomalies	4	8%
Idiopathic	17	34%

It was observed that pregnancy induced hypertension (30%), intrauterine growth retardation (22%), fever (6%), fetal anomalies (8%) were commonly associated maternal and fetal conditions in women leading to oligohydramnios.

**Table 6: Maternal Outcome**

Mode of delivery	Number	Percentage
Spontaneous vaginal delivery	08	16%
Induced vaginal delivery	13	26%
Operative delivery	29	58%

The maternal outcome in term of spontaneous vaginal delivery or induction of labour was seen less and caesarean deliveries were more to improve fetal outcome. It was observed that higher rate of operative deliveries were noted (58%) as compared to vaginal delivery (42%).

**Table 7: Fetal outcome**

Fetal outcome	No	Percentage(%)
Healthy babies	19	38%
Low APGAR score	12	24%
Sepsis	06	12%
Meconium aspiration	08	16%
Still birth	02	4%
Congenital malformation	03	6%

Birth asphyxia was more common in babies with oligohydramnios with low Apgar scores. Neonatal morbidity was mainly in form of meconium aspiration and neonatal sepsis. Perinatal mortality around 10% was seen in present study.

## Discussion

In the present study 50% of cases were of age group 25-30 yrs., reflecting the child bearing age of most of the women, Study by Bangal VB et al, Chauhan P et al and Jan Zhang et al found the similar results. Incidence of term pregnancy with AFI <5 is 3.3% in our institute which is comparable to other studies. Obstetrical complications frequently associated with

oligohydramnios were Pregnancy induced hypertension, intrauterine growth retardation, congenital malformation in form of fetal renal anomalies and still birth. PIH was present in 15% of cases. IUGR was second most common condition found with oligohydramnios in this study.

In the present study, the rate of caesarean section was 58% and vaginal deliveries was 42%. Study by Casey B et al found that, there was increase rate of induction of labour (21%) and caesarean section (16%) in oligohydramnios cases which is with perinatal mortality 10%. Fetal outcome in form of meconium aspiration syndrome with low Apgar score was found in 40% and stillbirth was found in 4% of newborns in present study.

Risks associated with oligohydramnios from maternal side are prolonged labor, malpresentation, caesarean delivery, instrumental delivery and from fetal side are meconium aspiration syndrome, septicaemia, fetal pulmonary hypoplasia, cord compression, perinatal mortality.

Diagnosis was done by history taking, per abdomen and per speculum examination, ultrasonography by estimation of amniotic fluid with maximum vertical pocket or four quadrant technique and test for fetal surveillance (Non stress test, Biophysical profile, Doppler)

### **Conclusion**

Liberal use of ultrasonography has become saviour to intrauterine fetus. Oligohydramnios is diagnosed in term patients due to routinely performed obstetric ultrasonography in all high-risk group of patients. Pregnancy Induced hypertension, Intrauterine growth restriction are most commonly associated conditions seen with oligohydramnios in term pregnancy. Inductions of labour and operative deliveries are increased. Caesarean section was mostly indicated in patients with fetal distress and oligohydramnios. Babies are relatively more prone to complications like meconium aspiration syndrome, neonatal sepsis and birth asphyxia.

Continuous intrapartum fetal monitoring and good neonatal care are necessary for better perinatal outcome. Every case of oligohydramnios needs careful antenatal evaluation, parental counselling, individualized decision regarding timing and mode of delivery. All these efforts can give us better fetomaternal outcome.

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