

## **Mode of delivery in isolated oligohydramnios – A prospective study**

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### **Abstract**

**Background:** Estimation of amniotic fluid volume is a good predictor of maternal & perinatal outcome. With increasing obstetrical care more cases of oligohydramnios are coming into limelight & their management as per gestational age & mode of delivery are matter of great concern to doctor & patient.

**Objectives:** To identify the intrapartum sequelae of oligohydramnios such as arrest of labour, caesarean delivery for foetal distress.

**Material & method:** A prospective hospital based study of 50 antenatal women conducted at Zenana hospital, SMS medical college, Jaipur from June 2017 to May 2018 & a detail study regarding mode of delivery in concern with oligohydramnios was done.

**Results–** Oligohydramnios in pregnancy is associated with increase rate of operative delivery but vaginal delivery can be attempted with close intrapartum surveillance. Common indication for operative delivery was non assuring foetal heart rate & arrest of labour.

**Conclusion:** The goal of antepartum surveillance is to identify the foetus at risk. Amniotic fluid volume has been proved an indirect measure of feto-placental

function, hence the estimation of amniotic fluid index assists the obstetrician in risk assessment.

**Keywords:** Delivery, oligohydramnios, AFI

### **Introduction**

Estimation of amniotic fluid volume is a good predictor of maternal & perinatal outcome.<sup>1</sup> With increasing obstetrical care more cases of oligohydramnios are coming into limelight & their management as per gestational age & mode of delivery are matter of great concern to doctor & patient. Many studies show that oligohydramnios is associated with a variety of ominous pregnancy outcomes, such as fetal distress, low birth weight, perinatal morbidity, perinatal mortality and increased incidence of cesarean section.<sup>2-5</sup> However, some studies show that AFI is a poor predictor of adverse outcome, and even the existence of an entity like isolated term oligohydramnios has been questioned by some authors. Thus, this study is conducted to determine whether an antepartum AFI of 5 cm or less as a predictor of adverse pregnancy outcome.<sup>6-7</sup>

## Material and Methods

This prospective case-control study consists of an analysis of pregnancy outcome in 50 cases with diagnosis of oligohydramnios (AFI<5) by ultrasound after 37 completed weeks of gestation, conducted at Zenana hospital, SMS Medical College, Jaipur from June 2017 to May 2018 & a detail study regarding mode of delivery in concern with oligohydramnios was done after taken consent from the patient and ethical clearance Ethical Committee.

For all the selected cases, thorough history was taken, and complete examination was done. Clinical evidence of oligohydramnios was looked for. The previous obstetric records and ultrasound reports were reviewed. For all the women, ultrasound examination was done, and AFI was calculated by four quadrants amniotic fluid volume measurement technique. For all women baseline investigations like haemoglobin%, blood group and RH typing, urine examination was done. Non-stress test (NST) was done for all patients. Oligohydramnios is defined as AFI  $\leq$  5 cm. The amniotic fluid volume is considered normal if AFI is between 5.1 cm and 20 cm.

## Inclusion Criteria

- All singleton pregnancies
- Cephalic presentation
- At term 37 -40 weeks
- Intact membranes
- Patients giving consent

## Exclusion Criteria

- Gestational age < 37 weeks or more than 40 weeks
- Premature rupture of membranes
- Uterine anomaly
- Malpresentation

- High risk pregnancy: - (a) Hypertension(b) Diabetes(c) Chronic renal disease(d) Connective tissue disorder(e) Bad obstetric history

## Results

### Booked & un-booked patients

	No. of patients	Percentage
Booked	28	55
Un-booked	22	45

In our study 45% patients were un-booked & 55% patients were booked in same health institute

### Mode of delivery in induction group:

Mode of delivery	No. of patients	Percentage	P value
LSCS	18	60	
Normal Delivery	12	40	
Total	30	100	< 0.05

### Mode of delivery in spontaneous group

Mode of delivery	No. of patients	Percentage	P value
LSCS	6	42.7	0.021
NORMAL DELIVERY	9	57.3	
TOTAL	14	100	

In our study, for mode of delivery, LSCS was used in 6 (42.73%) patients and normal delivery was in 9(57.3%) patients in spontaneous group & LSCS was used in 60% of patients in induction group.

### Indication of caesarean

Indication	No. of patients	Percentage
Failed induction	14	48.3
Non progression of labour	7	24.1
Meconium stained liquor	5	17.3
Non-reactive CTG	3	10.3

Caesarean sections were more common in Oligohydramnios patients because of more incidence of fetal distress & non progression of labor in these patients.

### Discussion

A total number of 50 antenatal patients with term pregnancies were recruited in study & various factors were studied. Result shows that low AFI is marginally more common in un-booked patients compared to booked patients indicating that proper antenatal care & an early admission as per requirement reduces the number of cases. Among 50 patients, induction was given to 30 antenatal patients. Around 60% caesarean rate was seen in induction group. 14 patients were left for spontaneous progress of labour, of which 60% were delivered normally. Common indications for caesarean section were failed induction & non progression of labour.

The common mode of delivery in our study was caesarean section (LSCS) because of foetal distress arising out of cord compression. Reduced amniotic fluid volume was found to be associated with increased risk of caesarean section due to foetal heart rate abnormalities by Morris et al.,<sup>8</sup>

Conway DL et al (2000) in a randomized clinical trial including 183 low risk women between 37 and 41 weeks gestation with  $\leq 5\text{cm}$  ( patients with hypertension, rupture membranes, abnormal fetal testing, fetal growth restriction and fetal anomaly were excluded) found no significant difference in perinatal death, neonatal seizures meconium aspiration, fetal growth characteristics, route of delivery between two groups. They concluded that expectant management in otherwise normal pregnancy at term appears to be a reasonable alternative to labor induction.<sup>9</sup>

Ghosh G et al (2002) studied 333 parturients with oligohydramnios with intact membranes and found no significant difference in perinatal to the amniotic fluid index, although a 50% increase in emergency operation for fetal distress was noted.<sup>10</sup>

Voxman EG (2002) studied antepartum testing records of 779 women with oligohydramnios  $\leq 5\text{ cm}$  seen over 12 months period and found that  $\text{AFI} \leq 5.0\text{cm}$  was significantly associated with an abnormal antepartum fetal heart rate tracing but not with cesarean delivery, meconium stained fluid, Apgar score  $< 7$  or NICU admission.<sup>11</sup>

### Conclusion

- The goal of antepartum surveillance is to identify the foetus at risk. Amniotic fluid volume has been proved an indirect measure of faeto-placental function, hence the estimation of amniotic fluid index assists the obstetrician in risk assessment.
- Oligohydramnios in term pregnancies is associated with adverse pregnancy outcome such as prolonged labour, caesarean for foetal distress.
- It signifies the need for prevention, early detection and timely intervention to prevent the associated complications.
- Early intervention in the form of induction of labour, close intrapartum monitoring, artificial rupture of membrane in active phase of labour and grading of liquor and early decision making regarding mode of delivery are the steps to be taken to prevent poor outcomes. In patients with isolated oligohydramnios at term, induction & augmentation is appropriate management rather than opting elective caesarean but close supervision of labor, intensive fetal monitoring, early detection of fetal distress & intervention is mandatory to achieve better faeto-maternal outcome

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