

## ORIGINAL RESEARCH

### Perinatal outcome in oligohydramnios diagnosed at term - A prospective study

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#### ABSTRACT

**Background:** We aimed to assess the perinatal outcome in oligohydramnios diagnosed at term.

**Materials & methods:** A total 100 patients of oligohydramnios diagnosed at term was enrolled. Complete demographic and clinical details of all the subjects were obtained. On admission a detailed history was taken, clinical examination was performed and gestational age assessed. Perinatal outcome was recorded. Apgar score was also noted at 1 min and 5 mins. All the results were recorded and analysed using SPSS software.

**Results:** While evaluating the perinatal outcome, it was seen that birth weight was less than 2.5 Kg in 71 percent of the subjects. Apgar score was less than 7 at 1 min and at 5 min in 28 percent and 3 percent of the subjects respectively. Early neonatal mortality was seen in 3 percent of the subjects. While a single subject showed presence of still birth.

**Conclusion:** As Oligohydramnios is associated with a higher rate of pregnancy complications, in the presence of oligohydramnios, thorough evaluation of the gravida for hypertension, pre-eclampsia, diabetes, chronic abruption, premature rupture of membrane etc should be done.

**Key words:** Perinatal, Oligohydramnios, Term.

#### INTRODUCTION

Oligohydramnios is defined as decreased amniotic fluid volume (AFV) for gestational age. The volume of amniotic fluid changes over gestation, increasing linearly until 34 to 36 weeks gestation, at which point the AFV levels off (approximately 400mL) and remains constant until term. The AFV then begins to decrease steadily after 40 weeks gestation, leading to reduced volume in post-term gestations.<sup>1,2</sup>

Oligohydramnios was defined as an amniotic fluid index (AFI)  $\leq 5$  cm.<sup>3,4</sup> in 1990, Moore and Cayle defined Oligohydramnios as an AFI below the 5th centile for the gestational age.<sup>5</sup> Its incidence is 2.3 % of all the pregnancies.<sup>6</sup>

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. This condition can pose serious threats on the maternal and fetal dimensions of pregnancy. The common maternal complications include prolonged labor; mal-presentation and fetal complications include abortion, cord compression, deformity due to intra-amniotic adhesions, pulmonary

hypoplasia, potter's syndrome, club foot and hand and hip dislocation.<sup>4-6</sup> Hence; the present study was conducted for evaluating the perinatal outcome in oligohydramnios diagnosed at term.

## MATERIALS & METHODS

The present study was conducted for evaluating the perinatal outcome in oligohydramnios diagnosed at term. A total 100 patients of oligohydramnios diagnosed at term was enrolled. Complete demographic and clinical details of all the subjects were obtained. The study was carried out within the time period of January 2020 to January 2021. Inclusion criteria included 100 subjects with gestational age  $\geq 37$  weeks with oligohydramnios (AFI  $< 5$  cms) with intact membranes, Subjects with singleton, non-anomalous fetus with intact membranes. Subjects with premature rupture of membranes and known fetal and chromosomal anomaly were excluded from the present study. On admission a detailed history was taken, clinical examination was performed and gestational age assessed. Perinatal outcome was recorded. Apgar score was also noted at 1 min and 5 mins. All the results were recorded and analysed using SPSS software.

## RESULTS

Mean maternal age was 25.9 years. In 69 percent of the subjects, maternal age was between 20 to 26 years. 78 percent of the subjects were of multigravida. Mode of delivery was vaginal in 71 percent of the subjects. While evaluating the perinatal outcome, it was seen that birth weight was less than 2.5 Kg in 71 percent of the subjects. Apgar score was less than 7 at 1 min and at 5 min in 28 percent and 3 percent of the subjects respectively. Early neonatal mortality was seen in 3 percent of the subjects. While a single subject showed presence of still birth.

**Table 1: Age**

Age group (years)	Number	Percentage
20 to 26	69	69
27 to 31	20	20
More than 31	11	11
Total	100	100

**Table 2: Parity**

Parity	Number	Percentage
Primigravida	22	22
Multigravida	78	78
Total	100	100

**Table 3: Mode of delivery**

Mode of delivery	Number	Percentage
Vaginal	71	71
LSCS	29	29
Total	100	100

**Table 4: Perinatal outcome**

Perinatal outcome		Number	Percentage
Birth weight	Less 2.5 Kg	71	71
	More than 2.5 Kg	29	29
Apgar Score	Less than 7 at 1 min	28	28

	Less than 7 at 5 min	3	3
	Meconium aspiration syndrome	9	9
	Early neonatal mortality	3	3
	Still birth	1	1

## DISCUSSION

An appropriate volume of amniotic fluid is one of the most important components of a healthy pregnancy, as it acts as a protective cushion for the fetus, prevents compression of the umbilical cord, and promotes fetal lung development. While the average volume of amniotic fluid varies with gestational age, abnormally low amniotic fluid volume has been associated with adverse pregnancy outcomes. Oligohydramnios, in which the volume of amniotic fluid is abnormally low (< 500 ml) between the 32nd and 36th weeks of pregnancy, is a serious condition for the fetus and the mother. There are several additional complications to be aware of during the labor course of a gestation complicated by oligohydramnios. These include an increased risk of umbilical cord compression, meconium aspiration, cesarean delivery, fetal heart rate decelerations, and nonreactive fetal tracings.<sup>7-10</sup>

In the present study, it was seen that birth weight was less than 2.5 Kg in 71 percent of the subjects. Apgar score was less than 7 at 1 min and at 5 min in 28 percent and 3 percent of the subjects respectively. Early neonatal mortality was seen in 3 percent of the subjects. While a single subject showed presence of still birth. Our results were in concordance with the results obtained by Bansal D et al who also reported similar findings. In their study, the incidence of oligohydramnios was 3%. In their study, 78.5% cases had associated obstetrical complications; acting singly or in combination for causing oligohydramnios.<sup>11</sup> In a similar study conducted by Gandotra N et al, authors evaluated perinatal outcome of oligohydramnios (AFI <5) at term. They assessed 200 patients at term with oligohydramnios AFI <5 cm with intact membranes for perinatal outcome. There were increased chances of FHR decelerations, thick meconium, increased LSCS, low Apgar score at 5 minutes, birth weight <2.5 kg, admission to NICU in pregnancy with oligohydramnios.<sup>12</sup> Lalita et al, in another study, analyzed the fetal out come in low risk pregnant women with oligohydramnios at term. 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.<sup>13</sup>

In another study conducted by Rezaie Kahkhaie K et al, authors analysed the fetal out come in low risk pregnant women with Oligohydramnios at term. The study included 100 pregnant women diagnosed with the AFI of or less than 5cm at term. Control group included 300 pregnant women with AFI more than 8cm. 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.<sup>14</sup> Golan A et al, in another study, analysed one hundred and forty-five cases of oligohydramnios in the second and third trimester. Pregnancy complications included hypertension (22.1%) and bleeding in the second trimester (4.1%). They found a high incidence of meconium-stained amniotic fluid (29.1%), fetal distress (7.9%) and premature placental separation (4.2%). IUGR occurred in 24.5% of cases. Asphyxia during labor occurred in 11.5% and different other perinatal problems in 23.5%. Cesarean section was performed in 35.2% of these pregnancies. Seventeen percent of the cases presented as breech. Intrauterine fetal death occurred in 5.5% of these pregnancies. The gross perinatal mortality was 16% and the corrected perinatal mortality was 10.7%. The overall rate of fetal malformations was 11% and that of lethal malformations 4.8%. The skeletal (7.6%) and urinary system (4.1%) were the predominant systems affected.<sup>15</sup>

## CONCLUSION

From the above results, the authors conclude that as Oligohydramnios is associated with a higher rate of pregnancy complications, in the presence of oligohydramnios, thorough evaluation of the gravida for hypertension, pre-eclampsia, diabetes, chronic abruption, premature rupture of membrane etc should be done.

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