



## A Clinical Study of 350 Oligohydromnios Cases in a Tertiary Care Centre

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### ABSTRACT

*oligohydromnios is defined as reduction in amniotic fluid volume or AFI <5cm. For maternal and fetal health oligohydromnios has become a threatening condition. With the aim of highlighting the condition of oligohydromnios in our institute. This retrospective study including 350 term pregnancy cases were taken who had undergone caesarian section with the indication of oligohydromnios. Maternal condition like the hypertension, premature rupture of membranes, postdated pregnancies, age and parity were seen and fetal condition in term of the fetal weight, presence of the meconium stained liquor and status of the baby at term whether alive or dead were noted. In results we found 95% of patients were in the age group of 20-30 years and 62% of them were primigravida. 74% of cases were idiopathic where no cause could be found followed by the postdated pregnancies (11.7%) and Pregnancy induced hypertension (.). Fetal distress was present in 39.4%, meconium stained liquor was seen in 28% of cases. 75% of the babies were of the average weight, while only 24% were underweight. All of these babies were alive at birth. With this study will concluded that adverse fetal outcome is associated with oligohydromnios.*

**Keywords:** *oligohydromnios, meconium, primigravida.*

### INTRODUCTION

Oligohydramnios is defined as amniotic fluid index less than 5cm or maximum vertical pocket devoid of cord is less than 2cm. The incidences of oligohydramnios are influenced by variation in diagnostic criteria, period of gestation studied and the threshold used at that time of gestation. Naturally the amniotic fluid volume decrease in third trimester, oligohydramnios is more common at term. One study including 3050 uncomplicated pregnancies between 40 & 41 weeks gestation, rate of oligohydramnios was found out to be

11%<sup>(1)</sup>. Amniotic fluid provides an ideal environment for fetal development & growth. It provides the fetus with water, participates in fetal metabolism, maintains a constant temperature & plays a crucial role in the development of fetal lungs. It protects the fetus from infection through its bacteriostatic properties & prevents the compression of umbilical cord. Amniotic fluid volume changes dramatically during the pregnancy along with changes in its content. This volume peaks at around 34 weeks and subsequently decreases during the pregnancy.

Amniotic fluid volume can be measured ultrasonographically which is a reliable method of its estimation, either as total amniotic fluid index <5cms or by seeing the deepest vertical pocket less than 2cm.<sup>(2)</sup>

From various studies done in the past, a number of factors have been found to be associated with oligohydramnios. The common conditions associated with oligohydramnios are ruptured membranes, postmaturity, hypertension in pregnancy and fetal anomalies. It can also be an idiopathic finding in a low risk pregnancy having no fetal or medical complication yet predispose to umbilical cord occlusion & the risk of fetal hypoxemia. However, over the last decade some authors have found that diminished volume of amniotic fluid alone is not associated with intrapartum complications. Hence, this study is undertaken to highlight such factors & their role in affecting fetal outcome in cases of oligohydramnios.

#### MATERIAL AND METHOD

This is a retrospective study including a total of 350 patients who were taken for cesarian section in a period of 1 year in Jk Lon Hospital Kota from january 2016 to december 2016 with indication of oligohydramnios.

A total of 350 cases were taken with sonographically diagnosed oligohydramnios where all cases of oligohydramnios (AFI<5cms) and borderline oligohydramnios (AFI 5-8cm)s were taken who had undergone cesarian section.

Cases with oligohydramnios of gestation age less than 37 weeks and with intrauterine deaths were excluded. Analysis was done in these cases with respect to maternal age, parity, gestational age, presence of hypertension and malpresentations. Fetal factors including fetal weight, malformations and Intraoperative findings like meconium stained liquor and fetal distress were taken into account. Fetal birth weight and condition at birth were also noted.

#### RESULTS

Out of total 350 patients, 331 (94%) patients were in the age group of 20 -30 yrs followed by more than 30 yrs group and only 4 patients were less than 20 yrs.

Age(yrs)	No. of patients	%
Less than 20 yrs	04	1%
20-30	331	94%
>30	15	4.2%

The incidence of oligohydramnios was highest in primigravidas 218(62.2%) followed by multigravidas 117(33%) and only 15(4.2%) cases were seen in four or higher gravidas.

Parity	Number of patients	Percentage
G1	218	62.2%
>or equal to G2	117	33%
>or equal to G4	15	4.2%

The most common risk factor associated with oligohydramnios was idiopathic seen in 260(74%) cases followed by postdated pregnancy in 41(11.7%), pregnancy induced hypertension in 34 (9.7%) and rupture of membranes was seen in only 20 cases(5.7%).Fetal anomalies were present in 5 cases(1.4%).

Risk Factors	No. of patients	%
Idiopathic	260	74%
Hypertension in pregnancy	34	9.7%
Postdated pregnancy	41	11.7%
Rupture of membranes	20	5.7%
Fetal anomalies	3	0.8%

In Fetal Outcome, Birth weight were analysed and it was found that 85(24.2%) babies were underweight; <2.5 kg and 2 (0.5%) babies were below 1.5kg weight while 263(75%) babies had average birth weight of 2.5kgs.

Birth weight	No. of babies	%
> or equal to 2.5kg	263	75%
<2.5kg	85	24.2%
<1.5kg	2	0.5%

Meconium stained liquor was found in 98(28%)cases and malpresentation were seen in 26(7.4%) cases. Fetal distress was present in 138 (39.4%) cases.

## DISCUSSION

Most of the patients in our study were found in the age group of 20-30yrs (94.5%) followed by more than 30yrs age group. Bengal et al<sup>(3)</sup> found the mean maternal age for patients with oligohydramnios was 22.8 yrs and the results were also similar in another study by Guin et al<sup>(4)</sup> where the mean age was 24 yrs. Our study also had similar results of the mean age of 21yrs.

Oligohydramnios was seen affecting primigravidas the most i.e 218(62%) which is similar to that found by Donald et al where it was 60%.<sup>(5)</sup>

Most common cause of oligohydramnios was found to be idiopathic (74%). Second most common cause was postdated pregnancy 41 (11.7%) followed by pregnancy induced hypertension 34(9.7%) and lastly rupture of membranes in 20 cases(5.7%). Fetal anomalies were associated with oligohydramnios in only 5 cases (0.8%) in our study.

These results were similar to that found by K.jakatia in 2013<sup>(6)</sup> where most common cause was idiopathic in 52% patients followed by pregnancy induced hypertension 25%.

Another study by Vibha Moses in 2016<sup>(7)</sup>, idiopathic cause was found in most of the cases (32%) followed by pregnancy induced hypertension in 26% cases and post dated pregnancy in 23% cases while only 9% cases of pre mature rupture of membranes were seen.

In the present study, 85(24.2%) babies had birth weight less than 2.5kg & 2 (0.5%) had birth weight less than 1.5kg. A study by Sowmya K et al<sup>(8)</sup> 48% babies were underweight out of 50 patients in AFI<5cms group .The difference in results between two studies can be explained due to more patients & that too with the inclusion of both oligohydramnios & borderline oligohydramnios in our study.

Meconium stained liquor was found in 98 cases (28%) and fetal anomalies were seen in 19 cases (%). In 26 cases, malpresentations were associated with oligohydramnios. A study by Preshit et al in 2012, he found occurrence of meconium stained liquor in women with AFI<5cms was 48%<sup>(9)</sup>. The

less number of cases with meconium in our study is also because of the fact that all cases here are not having amniotic fluid index <5cm. Fetal distress was present in 138 cases (39.4%). which is quite similar to a study by Syria et al who that found fetal distress was present in 48% cases.<sup>(10)</sup>

## CONCLUSION

Oligohydramnios (<5cm) and Borderline oligohydramnios (5-8cm) are associated with adverse fetal outcome. Various factors can be responsible for oligohydramnios, out of which postdated pregnancies, pregnancy induced hypertension and premature rupture of membranes are most common. Fetal anomalies are a rare cause and So with this knowledge these factors if detected earlier in antenatal checkups, oligohydramnios incidences can reduced to some extent, such factor and their adverse effects on fetal weight and risk of meconium aspiration syndrome can be reduced.

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