

Study of incidence of oligohydramnios during pregnancy at IIMSR Medical College, Warudi, Jalna

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Abstract

Background: Women with oligohydramnios are more likely to have increased incidence of fetal distress and thus an increased incidence of caesarean sections. The objective of this study was to determine the incidence of oligohydramnios during pregnancy at IIMSR Medical College, Warudi, Jalna. **Material and Methods:** In this retrospective hospital based study, a total of 120 pregnant women were studied for the incidence of oligohydramnios. Findings were analyzed with the special emphasis on demographic characteristics of the patient and maternal and perinatal outcome. **Results:** The mean maternal age was 23.56±4.34 years. Most of the women 74 (61.6%) with oligohydramnios were in the age group of 20-29 years. 58 (48.3%) women were primigravidas. The mean gestational age was 36.64±4.16 weeks. 48 (40%) had vaginal delivery and 66 (60%) had instrumental or operative delivery. **Conclusion:** Oligohydramnios in the absence of any other maternal or fetal complicating factor is found to increase the operative intervention. Oligohydramnios is frequent occurrence and requires intensive fetal surveillance and proper antepartum and intrapartum care.

Key Words: Oligohydramnios, gestational age, primigravidas, amniotic fluid index, outcome.

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INTRODUCTION

Amniotic fluid acts like a cushion and helps in growth of fetus in sterile environment, regulates temperature, avoid external injury and reduce impact of uterine contractions. Amniotic fluid index (AFI) of less than 5cm or less than the 5th percentile is considered as oligohydramnios as originally described by Phelan *et al.* in 1987.¹ Causes of Oligohydramnios are pregnancy induced hypertension (PIH), postdate pregnancy, infections, congenital anomalies like renal agenesis, idiopathic, etc. It may lead to increased risk of intrauterine growth retardation

(IUGR), meconium aspiration syndrome, severe birth asphyxia, low APGAR scores and congenital abnormalities.² Oligohydramnios occurs in about 1–5% of pregnancies at term.³ In pregnancies of more than 40 weeks of gestation, the incidence may be more than 12% as the amniotic fluid volume declines progressively after 41 weeks of gestation.⁴ Women with oligohydramnios are more likely to have abnormal or non-reactive FHR tracings, increased incidence of fetal distress, and thus an increased incidence of caesarean sections.⁵ The objective of this study was to determine the incidence of oligohydramnios during pregnancy at IIMSR Medical College, Warudi, Jalna.

MATERIAL AND METHODS

This retrospective hospital based study was conducted over a period of two years after obtaining approval from Institutional ethical committee. A total of 120 pregnant women were studied for the incidence of oligohydramnios in our institute.

Inclusion Criteria

1. Pregnant women in 3rd trimester of pregnancy

2. Diagnosed as oligohydramnios with amniotic fluid index (AFI) less than 5 cm
3. Pregnant women with intact membranes
4. Cases with singleton pregnancy with cephalic presentation,
5. Cases with non anomalous baby

Exclusion Criteria

1. Pregnant women with less than 3rd trimester of pregnancy
2. Presence of obstetric or medical complications
3. Women with ruptured membrane
4. Multiple pregnancy
5. Cases with fetal malpresentation and fetal congenital abnormalities
6. Unwillingness to be a part of the study

Findings were analyzed with the special emphasis on demographic characteristics of the patient and maternal and perinatal outcome. Results were analyzed by using percentage and proportion.

RESULTS

A total of 120 who completed 28 weeks of gestation with AFI <5 cm and met inclusion criteria were studied. The mean maternal age was 23.56±4.34 years. Most of the women 74 (61.6%) with oligohydramnios were in the age group of 20-29 years. By parity, 58 (48.3%) women were primigravidas followed by 42 (35%) multigravidas. It was observed that, 29.1% of women were in the gestational age group of 34-36 weeks followed by 21.6% women in 38-40 weeks. The mean gestational age was 36.64±4.16 weeks.

Table 1: Demographic characteristics of patients

Patient characteristics	No. of patients	Mean ± SD
Age groups (years)		
< 20	14 (11.6%)	
21-29	74 (61.6%)	23.56±4.34
> 30	32 (26.6%)	
Parity		
Primi	58 (48.3%)	
Multi	42 (35%)	1.3±1.6
Grand	20 (16.6%)	
Period of gestation		
30-32	06 (5%)	
32-34	16 (13.3%)	
34-36	35 (29.1%)	
36-38	15 (12.5%)	36.64±4.16
38-40	26 (21.6%)	
≥ 40	22 (18.3%)	
Amniotic fluid index		
0	11 (9.1%)	
1	08 (6.6%)	
2	29 (24.1%)	3.3±1.2
3	09 (7.5%)	
4	38 (31.6%)	
5	25 (20.8%)	

The amniotic fluid index was 4 in 38 (%) patients followed by 2 in 29 (%) patients with a mean of 3.3±1.2.

Table 2: Mode of delivery

Characteristics	No. of patients	Percentage
Labor		
Spontaneous	18	(15%)
Elective	82	(68.3%)
Induced	20	(16.6%)
Outcome		
Vaginal	48	(40%)
Instrumental	06	(5%)
LSCS	66	(55%)

As regards to mode of delivery, it was observed that 48 (40%) had vaginal delivery and 66 (60%) had instrumental or operative delivery.

DISCUSSION

Oligohydramnios is being detected more often these days due to routine use of obstetric USG. It is associated with a high rate of pregnancy complications and increased perinatal morbidity and mortality. In the present study, 74 (61.6%) women with oligohydramnios were in the age group of 20-29 years. 78% of cases were in the age group 20 to 29 years with the mean ±SD maternal age of 23.56±4.34 years. The mean maternal age was 23.6 ± 6.5 years in a similar study conducted by Chauhan P *et al*,⁶ however, there was no significant difference in age with oligohydramnios. In Casey *et al*,⁷ and Everett F *et al*⁸ the mean maternal age was 23.9 and 23.8 years respectively

which are comparable to the present study. In our study, 29.1% of women were in the gestational age group of 34-36 weeks followed by 21.6% women in 38-40 weeks. The mean gestational age was 36.64 ± 4.16 weeks. Similar studies by Jun Zhang *et al*,⁹ Casey B *et al*⁷ and Everett F *et al*⁸ found that, the mean gestational age were 38.1 ± 3.3 weeks, 37.5 ± 2 weeks and 34.3 ± 2.1 weeks respectively. These findings indicate that the problem of oligohydramnios was more common in the later part of pregnancy. It is mainly due to physiological or pathological causes of reduced placental perfusion near term. The incidence of oligohydramnios in primigravidae was 48.3% and 35% in multigravidas. Jagatai *et al* reported that the incidence of oligohydramnios was more in primipara in whom it was 52%.¹⁰ Jandial *et al* and Petrozella *et al* showed that the incidence of oligohydramnios was 60.0% in primipara which is similar to our study.^{11,12} The mean amniotic fluid index in the present study was 3.3 ± 1.2 cm. Chauhan P *et al* studied two groups of patients.⁶ First group had AFI less than 5cm and second with AFI less than 5th percentile for that gestational age. The mean amniotic fluid index was 3 ± 1.5 cm in patients with AFI less than 5cm and 3.9 ± 2.1 cm in AFI less than 5th percentile group. Sadovsky Y *et al* in their study found that the mean amniotic fluid index was 2.9 cm.¹³ In the present study, the rate of caesarean section or instrumentation was 60% and that of vaginal delivery was 40%. Study by Casey B *et al* found that, there was increased rate of induction of labor (42%) and Cesarean section (32%) in oligohydramnios cases.⁷ Jun Zhang *et al* found that, the overall cesarean delivery rates were similar between women with oligohydramnios and the controls (24% Vs 19%).⁹ In conclusion, oligohydramnios in the absence of any other maternal or fetal complicating factor is found to increase the operative intervention. Oligohydramnios is frequent occurrence and requires intensive fetal surveillance and proper antepartum and intrapartum care.

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