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Dr. Tripti Markam
Senior Resident, Department of Obstetrics and Gynaecology, GMC Ambikapur, Chhattisgarh, India

Dr. Jaiprakash Sahu
Assistant Professor, Department of Obstetrics and Gynaecology, GMC Ambikapur, Chhattisgarh, India

Corresponding Author:
Dr. Tripti Markam
Senior Resident, Department of Obstetrics and Gynaecology, GMC Ambikapur, Chhattisgarh, India

Feto maternal outcomes of term pregnancy in oligohydromnios

Dr. Tripti Markam and Dr. Jaiprakash Sahu

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Abstract
Background: In case of oligohydromnios maternal outcomes are associated with increased intervention in the form of induction of labour and cesarean deliveries due to fetal growth retardation and preterm deliveries indirectly increase maternal morbidity. Fetal outcomes are associated in the form of intrauterine fetal growth retardation, increase risk of meconium aspiration syndrome, low Apgar score, increase NICU admission and congenital anomalies.
Method: 50 patients with 37-42 weeks of period of gestation with oligohydromnios confirmed by ultrasonographic measurement of Amniotic fluid index using four quadrant technique. Patients were selected from the opd.
Results: In our study incidence of oligohydromnios more found in primigravida (74%). Most common cause of oligohydromnios was idiopathic (30%) followed by pregnancy induced hypertension (25%). Most common cause of cesarean section was fetal distress (32%). Oligohydromnios associated with 40% of Neonatal intensive care unit admission.
Conclusion: An amniotic fluid index <5cm. Detected after 37 weeks of gestation is an indicator of poor perinatal outcomes and it increases the risk of cesarean section, so if it detected earlier we can overcome the problem by proper antenatal checkup, councelling and treatment.

Keywords: Oligohydromnios, amniotic fluid index, neonatal intensive care unit, fetal outcome, maternal outcome

Introduction
The importance of amniotic fluid volume as an indication of fetal well beings has made its assessment an important part of antenatal fetal surveillance [1]. Amniotic fluid provide protective sheild to growing fetus, protect against mechanical and biological injuries, suppling neutrient and facilitating growth and movement of fetus [2]. Early in the development period of fetus, it is enclosed by amnion and is surrounded by amniotic fluid. Which is similar to extracellular fluid volume assesment an important part of antenatal fetal surveillance. Oligohydromnios refer to amniotic fluid volume that is less than expected for the gestational age. It is typically diagnosed with ultrasonography examination and may be described qualitatively (e.g. Normal, reduced) or quantitatively (e.g. Amniotic fluid index <5cm.) [3] Oligohydromnios occurs in about 1-5% of pregnancy at term [4]. In pregnancies of >40 weeks gestation, the incidence >12% as the amniotic fluid volume decline progressively after 41 weeks of gestation [5]. The risk of meconium staining liquor, intrapartum fetal distress, operative delivery and perinatal mortality are significant higher in patients with AFI <5cm. Compare to those with AFI 8-18cm.Oligohydromnios results from medical or obstetrical complication related to maternal, placental, fetal and idiopathic cause. Both abnormal, I ncrease or decrease in amniotic fluid volume have been associated with maternal as well as fetal morbidity and mortality. Oligohydromnios identified by ultrasonography by four quadrant technique for AFI provide a most convenient method of evaluating amniotic fluid volume. Oligohydromnios associated with uteroplacental insufficiency, premature rupture of membranes, congenital fetal anomalies, post datism and hypertensive disorder in pregnancy. During labour chances of cord compression which cause fetal distress associated with low apgar score and acidosis at birth, meconium staing, caesarean and operative vaginal delivery. Immediatly after birth proper resuscitation by pediatrician is mandatory [6]. The objective of this study was to observe the effect of oligohydromnios in maternal outcomes in forms of operative delivery and progress of labour and in fetal outcomes i.e. fetal distress, Apgar score, need for NICU admission (MSL), perinatal death [7].

Aims and Objectives

The study aims to assess the association of adverse perinatal outcomes in cases with oligohydromnios diagnosed antepartum.

Method

This study was conducted in department of obstetrics and gynaecology of government medical college Ambikapur, Chhattisgarh, between november 2019 to May 2020.50 patients with 37-42 weeks period of gestation with oligohydromnios, confirmed by ultrasonography measurment of AFI using four quadrant technique, patiens were selected from the opd of government medical college Ambikapur, Chhattisgarh.

Inclusion Criteria

- Antenatal women of 37-42 weeks of pregnancy.
- Singleton pregnancy with cephalic presentation
- Patients with AFI<5cm

Exclusion Criteria

- Multiple pregnancy
- Patient with premature rupture of membranes

All the patients undergone detailed history taking and clinical examinations. Diagnosis was made by four quadrant technique by ultrasonography. Fetal surveillance done by ultrasonography, modified biophysical profile and Doppler. Decision for the delivery was made by either induction or cesarean section as per required.

Results

Table 1: Distribution of patient according to gestational age

Gestational age(in weeks)	No. of patients	%
37-40 weeks	35	70
41-42 weeks	15	30

In our study out of 50 patients, 40% of patients were in 20-25 years of age group and 36% were in 18-20 years of age group and rest of 20% and 4% were belong to age group 26-30 years and 31-35 years respectively.

Finding of table 1. Indicate that problem of oligohydromnios was more common in the later part of pregnancy.

Oligohydromnios complicated with

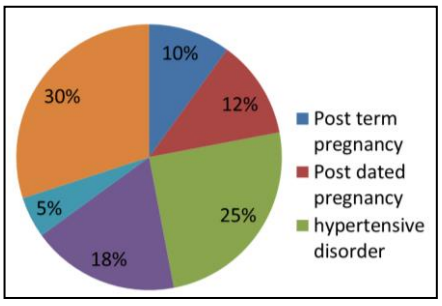

Fig 1(A): Pie diagram showing incidence of hypertensive disorder is (25%) in our study. Idiopathic cause is more common.

Table 2: Induction of labour

Methods	No. of patients	%
Misoprostol	07	14
Oxytocin	02	04
No induction	41	82
Total	50	

In our study induction done only on 18% of cases, which was associated with increased incidence of cesarean section

Indications of cesarean section

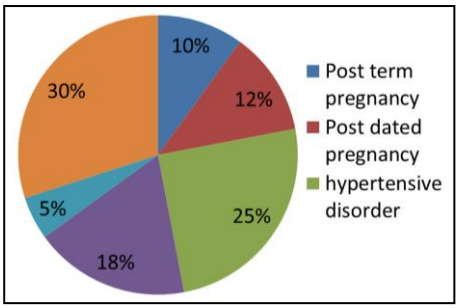

Fig 1(B):.Pie diagram showing incidence of hypertensive disorder is (25%) in our study. Idiopathic cause is more common.

Table 3: Distribution of patients by age and mode of delivery

Age (in years)	Mode of Delivery			Total	%
	NVD	Assisted	Lscs		
18-20	02	0	16	18	36
21-25	05	02	13	20	40
26-30	01	01	08	10	20
30-35	0	0	02	02	04
Total	08	03	39	50	

Table - 40 % of patient belong to 21-25 years of age group.

Table 4: Distribution of patient by parity and mode of delivery

Parity	Mode of delivery			Total	%
	NVD	Assisted	Lscs		
Primigravida	03	0	29	32	64
Multigravida	05	03	10	18	36
Total	08	03	39	50	

Table 4 – According to gravida distribution cesarean section rate is 74% in primigravida

Table 5: Low AFI and 5 min. Apgar score

Apgar Score	No. of patients	%
0-3	08	16
4-6	11	22
7-13	31	62
Total	50	

Table 5- In our study APGAR score <7 at 5 minutes were 38%.

Table 6: NICU Admission and MAS

	No. of patients	%
NICU Admission	17	34
MAS	03	06
No NICU Admission	30	60

Table 6 - 40% of patients admitted in the NICU, were 3% are due to meconium aspiration syndrome.

Discussion

In our study out of 50 patients, 40% of patients were in 20-25 years of age group and 36% were in 18-20 years of age group and rest of 20% and 4% were belong to age group 26-30 years and 31-35 years respectively.

In our study 70% of patient belongs to between 37-40 weeks of gestation. Similar study done by Casey B *et al* were mean gestational age was 38.1+_3.3 weeks. This finding indicate problem of oligohydromnios was more common in the later part of pregnancy [8].

Most common cause of oligohydromnios found to be idiopathic (30%) and second most common cause was hypertensive

disorder in pregnancy (25%). The results were similar to that found by K. jakatia where most common cause was idiopathic in 52% followed by pregnancy induced hypertension in 25% [9], Golan A *et al.* in his study, found maternal hypertension in22% cases [10].

In our study only 18% patients were induced and all they are land up in cesrean section. Similar study done by Casey *et al*. found that there was increased rate of induction of labour (42%) in oligohydromnios cases.

Most common indication for cesarean section was fetal distress in our study followed by failed induction 23%, pregnancy induced hypertension 15%, oligohydromnios 15%, IUGR 10% and others are 5%.

Most of the patients in our study found in the age group of 20-25 years(40%), results were similar in another study done by Guin *et al*. where the mean age was 24 years [1].

Oligohydromnios was seen affecting primigravida the most (64%) which is similar to that found by Donald *et al*. where it was 60%.

In our study Apgar score <7 at 5minutes was found in 19 babies. In a similar study by Desai *et al*. found 6 babies had Apgar score of <7 at 5 minutes [11].

Incidence of NICU admission was 40% in our study. In similar study Julie M Jhonson *et al* [12]. and Manning *et al* NICU admission were 20 % and 43% respectively [13]. Meconium aspiration syndrome was 6% in our study.

Conclusion

Most common cause of oligohydromnios is idiopathic. In case of oligohydromnios it is complicated with post term pregnancy, post-dated pregnancy, PIH, severe anaemia and PPROM. Oligohydromnios are associated with many fetal complications such as fetal distress, IUGR, congenital anomalies, meconium stain liquor etc. If patients attend proper antenatal clinic we can overcome these problems. Due to intrapartum complication perinatal morbidity and mortality are high which increases the rate of cesarean section.

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