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Obstetric Outcome in Cases of Oligohydramnios Diagnosed After 34 Weeks of Gestation

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ABSTRACT
Oligohydramnios is a serious complication of pregnancy that is associated with a poor perinatal and maternal outcome. It is a prospective study conducted in the Department of Obstetrics and Gynecology. Study covers 50 cases diagnosed clinically with oligohydramnios and confirmed by single or serial ultrasound scan after 34 weeks of gestation. Various maternal and fetal complications associated with oligohydramnios during antepartum and intrapartum periods and its sequel on maternal and fetal outcome are analysed. In our study incidence of oligohydramnios was 6.63%, majority of the cases were primigravidae (72%) and had non consanguineous marriage (88%), most of the cases were presented at term (66%), most common aetiological factors were idiopathic and preeclampsia, 9 cases(18%) had spontaneous labour, 5 cases (10%) had induced labor, caesarean section rate 72%, no maternal mortality occurred in our study. perinatal mortality rate was 10% and take home baby rate was 90%.

INTRODUCTION

Oligohydramnios is a serious complication of pregnancy that is associated with a poor perinatal outcome. It complicates 1-5% of term pregnancies[1]. Over all incidence is 3.9% of all pregnancies. Oligohydramnios is defined as amniotic fluid index less than 5th percentile for the gestational age or AFI less than or equal to 5cm regardless of gestational age. It can be categorised as mild, moderate and severe Oligohydramnios when deepest pocket devoid of cord/fetal limbs measuring <3, 2, or 1cm. respectively [1]. Normal amniotic fluid index is between 8.1-20cm. Borderline Oligohydramnios is defined as amniotic fluid index between 5.1-8cm. Shipp and associates noted a bimodal distribution in the diagnosis of severe oligohydramnios with more cases diagnosed at 13-21 wks and 34-42 wks. Manning et al. defined oligohydramnios when largest pocket on ultrasound in its broadest diameter measured <1cm. They revised the criteria to a single pocket measuring 2cm in both vertical/horizontal planes[2]. Oligohydramnios is found to be associated with increased frequency of maternal and fetal complications[3]. It may be associated with uteroplacental insufficiency, preeclampsia, hypertension, diabetes, cardiac disease, congenital anomalies, idiopathic fetal growth restriction, fetal hypoxia etc. Oligohydramnios, in a pregnancy without fetal renal abnormality or genitourinary obstruction is thought to represent chronic in utero stress. The impact of oligohydramnios on maternal and fetal outcome can be significant[4].

MATERIALS and METHODS

It is a prospective study conducted in the Department of OBG. Study covers 50 cases diagnosed clinically with oligohydramnios and confirmed by single or serial ultrasound scan after 34 weeks of gestation. The criteria for selection of cases were based on detailed clinical history like duration of amenorrhea, decreased fetal movement, leaking per vagina, obstetric history regarding previous congenital abnormalities, oligohyclramnios or medical disorders complicating pregnancy like diabetes, cardiac disease, hypertensive disorders, anaemia chronic renal diseases, etc. On clinical examination presence of anaemia, pedal oedema, obesity, high BP, jaundice will be recorded. Systemic examination of cardiovascular, respiratory and central nervous system was made. On per abdominal examination following points were noted like height of the uterus, lie of the fetus, presentation, position, FHS, IUGR. If the cases were first seen during labour, per vaginal examination to note cervical effacement, dilatation, Presentation station, state of membranes and type olpelvis was done.

Inclusion Criteria: All women with singleton pregnancy with oligohydramnios diagnosed at or beyond 34 weeks of gestation confirmed by ultrasound scan.

Exclusion Criteria:

- Multiple pregnancies.
- Intrauterine fetal death.
- Patient with ruptured membranes.
- Fetal anomalies.
- Postdated pregnancy.

After having made a presumptive diagnosis of oligohydramnios cases were sent for detailed ultrasound examination for confirmation of diagnosis. Management is based on single scan, as well as serial scan. Other investigations like Non stress test, renal function tests, liver function tests and coagulation profile in pre-eclampsia, RBS, OGCT, GTT in overt diabetes to know the cause of oligohydramnios. Doppler wave study to determine the extent of fetal compromise was done if required.

RESULTS and DISCUSSIONS

Table 1: Etiology of Oligohydramnios

Causes	No. of Cases	Percentage
Hypertensive disorders of Pregnancy (Gestational hypertension, Preeclampsia, imminent eclampsia)	15	30
Hypertensive disorders of pregnancy and anaemia	03	06
Anaemia	06	12
Rh negative pregnancy	04	08
Herpes infection	01	02
VDRL positive	01	02
Bronchial asthma	01	02
Idiopathic	19	38

The above table and graph shows various etiological factors associated with oligohydramnios other than congenital anomalies, ruptured membranes, IUD and twin gestation which are excluded from our study. Idiopathic being the most common cause of oligohydramnios accounting for 19 cases (38%) followed by hypertensive disorders of pregnancy 15 cases (30%). hypertensive disorders of pregnancy and anaemia 3 cases (6%) There are no studies to show the association of anaemia, Rh negative pregnancy, Bronchial asthma, herpes and VDRL infection with oligohydramnios. In our study there were 6 cases (12%) of anaemia, 4 cases of Rh negative pregnancy (8%), 1 case (2%) each of asthma, herpes and VDRL infection (Table 1).

Table 2: Mode of Delivery

Delivery	No. of Cases	Percentage
Spontaneous	9	18
Induced	5	10
Caesarean section	36	72

The above table and graph shows that in our study majority of the cases had caesarean delivery 36 cases (72%), 9cases (18%) had spontaneous delivery and 5 cases (10%) had induced delivery (Table 2).

Table 3: Gestational Age at Delivery

Gestational age in weeks	No of cases	Percentage
34-36	8	16
37-40	42	84

In the present study out of 50 cases, 42(84%) had term delivery between 37-40 weeks and 8 cases (16%) had pre term delivery between 34-36 weeks (Table 3).

Table 4: Indication for Caesarean Section

Indication	No of cases	Percentage
Fetal distress	17	47.2
Malpresentation	5	13.9
IUGR	5	13.9
Infertility	3	8.3
Severe preeclampsia	2	5.5
Failed induction	1	2.8
CPD	1	2.8
Bad obstetric history	1	2.8
Herpes infection	1	2.8

The above table shows the indications for caesarean section. In the present study the most common indication was fetal distress, out of 36 cases 17cases (47.2%) were operated for fetal distress. Other causes were Malpresentation and IUGR 5 cases each accounting for 13.9%, followed by infertility 3cases (8.3%), severe preecclampsia 2 cases (5.5%), CPD, bad obstetric history, failed induction and Herpes 1 case each (2.8%) (Table 4).

Table 5: Fetal Outcome

Apgar score (n=8)	Minutes	No of cases	Percentage	P-value
≥5	1	18	37.5	
> 5		30	62.5	> 0.05
≤7	5	20	41.7	
< 7		28	58.3	> 0.05

The above table shows the fetal outcome of 48 cases taking apgar score at 1 minute and 5 minutes, the score of <5 at 1 minute was found in 37.5% of cases and the score of <7 at 5 minutes was found in 41.7% of cases. There were 2 cases of fresh still birth in our study. Chi-square test showing p>0.05 which is not significant (Table 5).

Table 6: Fetal Outcome

Fetal Outcome	No of Cases	Percentage
NICU admission	27	54
Mother side	18	36
Neonatal death	3	6
Fresh still birth	2	4

The above table shows the fetal outcome in 50 cases, where in 27 cases (54%) were admitted to NICU for various reasons like meconium aspiration syndrome, pre-term care, birth asphyxia and IUGR. for 2%. The perinatal death rate is 10% with fresh still birth and neonatal death contributing to 4% and5% respectively. Babies without any significant complication and good Apgar score shifted to mother side were 18 cases (36%). The take home baby rate is 90% (Table 6).

In the present study it was found that an amniotic fluid index of <5cm has been associated with adverse fetal outcomes like increased rate of caesarean section for fetal distress, low apgar score at birth, low birth weight and increased risk of NICU admission, In our study out of 36 cases of abdominal delivery, 17(47.2%) cases had caesarean delivery for fetal distress. Malpresentation and IUGR 5 cases each, contributing to 13.9% in our study. Other indications were infertility 3cases (8.3%), severe preeclampsia 2cases (5.5%), one case each of CPI/failed induction, bad obstetric history and herpes infection in our study[5,6]. Meconium stained amniotic fluid were seen in 26 cases (52%) Out of 50 and non-reactive NST were seen in 15 cases contributing to 30% of the total study population. Adverse perinatal outcome like low birth weight were seen in 27 cases (54%), low Apgar score of <7 at 1minute and 5 minute were 33 cases (68.75%) and I0 cases (20.8%) respectively. NICU admission was 27 cases (54%) for various reasons like birth asphyxia. meconium aspiration syndrome. pre term care, IUGR and low birth weight[7]. Perinatal mortality rate was 10% and take-home baby rate was 90% in the present study. Good NICU set up will go a long way in reducing perinatal morbidity and mortality[8]. As compared to study done by Jun Zhang to know the perinatal outcome in pregnancies associated with oligohydramnios shows that isolated oligohydramnios is associated with good birth weight (mean wt-2.4 kg), Apgar score at birth, reduced rate of NICU admission and reduced perinatal mortality. In our studs mean age at delivery is 37.8 weeks of gestation. hence no aggressive intervention is required as long as fetal surveillance reports are normal and can be managed conservatively till term[9]. Oligohydramnios poses a challenge in obstetric management particularly when diagnosed before term Oligohydramnios characterized by decreased amniotic fluid may result from a chronic placental insufficiency that compromises fetal reserves and increases susceptibility to intrauterine stresses and resultant fetal distress. Oligohydramnios signals danger to fetus in the course of pregnancy and hence needs a thorough evaluation[10]. Oligohydramnios identified in the antepartum or intrapartum periods of pregnancy has been associated with an increased risk of meconium-stained amniotic fluid, abnormal fetal heart rate tracing, operative intervention for fetal distress in

labor, low Apgar score at birth and higher NICU admission rate.

CONCLUSION

Oligohydramnios due to high risk factors associated with impaired placental functions has been associated with an increased risk of caesarean delivery for fetal distress. Oligohydramnios is associated with low birth weight, low Apgar score at 1 minute and 5 minute and higher NICU admission rate. Pregnancy with isolated oligohydramnios is not associated with impaired fetal growth or an increased risk of adverse perinatal outcome and hence requires no aggressive treatment.

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