

Assessing the Obstetric Outcomes in Cases of Oligohydramnios Identified After the 34 Weeks of Gestation

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Abstract:

Background: Oligohydramnios is a serious complication of pregnancy that is associated with a poor perinatal & maternal outcome.

Material and Methods: This is a prospective study conducted in the Department of Obstetrics and Gynaecology, in Darbhanga medical college and Hospital Laheriasarai Bihar. Duration of one year. Study covers 50 cases diagnosed clinically with oligohydramnios and confirmed by single or serial ultrasound scan after 34 weeks of gestation.

Conclusion: An antepartum or intrapartum oligohydramnios is associated with significantly increased risk of caesarean section for fetal distress and low Apgar score, at 5 minutes. Isolated oligohydramnios is not associated with impaired fetal growth or adverse perinatal outcome.

Keywords: Oligohydramnios, antepartum, Intrapartum, Perinatal.

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Introduction

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 & 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. [2] Shipp & associates noted a bimodal distribution in the diagnosis of severe oligohydramnios with more cases diagnosed at 13- 21wks and 34- 42wks. 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. Oligohydramnios is found to be associated with increased frequency of maternal & fetal complications. [3] It may be associated with uteroplacental insufficiency, preeclampsia, hypertension, diabetes, cardiac disease, congenital anomalies, idiopathic fetal growth restriction, fetal hypoxia ect. Oligohydramnios, in a pregnancy without fetal renal abnormality or genitourinary obstruction is thought to represent chronic in utero stress. [4] Increased

incidence of operative intervention due to malpresentations & its associated morbidity and mortality. By diagnosing such cases early & timely intervention can prevent most of the complications. In case of irreversible complications having occurred, termination of pregnancy can be considered. This clinical study was conducted in Darbhanga medical college and Hospital Darbhanga. It was conducted on 50 cases of oligohydramnios to know their fetal and maternal outcome. [5]

Objectives

To assess whether ante partum oligohydramnios is associated with adverse perinatal outcome. The aims of the study are to diagnose oligohydramnios in third trimester, to detect the causes, to treat cases of oligohydramnios, to reduce perinatal morbidity and mortality.

Material and Methods

This is a prospective study conducted in the Department of Obstetrics and Gynaecology, In Darbhanga medical college and Hospital Laheriasarai, Bihar. Study duration of one years. 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 amenorrhoea, decreased fetal movement, leaking per vagina, obstetric history regarding previous congenital abnormalities, oligohydramnios 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.

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.

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. Patient with idiopathic oligohydramnios were managed conservatively with oral hydration, intravenous amino acid infusion, nutrients and multivitamins in absence of fetal distress or maternal complications. High risk pregnancy with oligohydramnios were managed depending on Bishop's score, presence or absence of hypertension, labour pain, FHS and accordingly planned for vaginal delivery or elective Caesarean section. In such cases early delivery and good intensive neonatal care was given

Results

The clinical study of oligohydramnios with maternal and fetal outcome was conducted on 50 cases, at DMCH, Darbhanga Laheriasarai. Study duration of one year.

Total no of deliveries were: 1478 Total no of oligohydramnios were: 98 Incidence of oligohydramnios in our study is:

Age Distribution

Table 1:

| Age in years | No of cases | Percentage |
|--------------|-------------|------------|
| 15-20 | 10 | 20 |
| 21-25 | 20 | 40 |
| 26-30 | 14 | 28 |
| 31-35 | 4 | 8 |
| 36-40 | 2 | 4 |

Age distribution of 50 women, who were included in the present study between 15 -40years of age, they were divided into 5 groups with maximum no patients belonging to age group between 21-25years almost 40%of cases were in this group. Mean age of incidence is 24.7years.

Antenatal Status

Table 2:

| ANC status | No of cases | Percentage |
|------------|-------------|------------|
| Booked | 44 | 88 |
| Un booked | 06 | 12 |

The above table shows the antenatal status of the study population where in out of 50 cases 44cases (88%) were booked 6cases (12%) were unbooked.

Antenatal Medical Complication

Table 3:

| Complications | No of cases | percentage |
|--|-------------|------------|
| Gestational hypertension, | 18 | 36 |
| preeclampsia, | 9 | 18 |
| imminent eclampsia | 4 | 8 |
| Anaemia | 1 | 2 |
| Rh negative pregnancy Herpes infection | 1 | 2 |
| V D R L positive Bronchial asthma | 1 | 2 |
| No complications | 19 | 38 |

The above table shows various medical complications associated with oligohydramnios. Gestational

hypertension, preeclampsia and imminent eclampsia accounts for 18 cases (36%), Anaemia

9cases(18%), Rh negative pregnancy 4 cases (8%), Herpes, VDRL and Bronchial asthma 1 case each contributing to 2%.

No associated medical complications were seen in 19 cases (38%) which form the majority. 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 preeclampsia 2 cases (5.5%), CPD, bad obstetric history, failed induction and Herpes 1case each (2.8%), 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% & 5% 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%

Discussion

In the present study, an incidence of 6.63% was noted. Oligohydramnios complicates 1-5% of term pregnancies. Overall incidence is 3.9% of all pregnancies according to study done by Lawrence Lee-man. [6,7] The varied incidence of oligohydramnios could be due to different populations with varying prevalence's of complications and diverse obstetric factors that influence the actual volume of amniotic fluid. Higher incidences were found at tertiary centre when compared to other community hospitals. [8] Majority of the cases were in the age group 21-25 years with mean age of incidence being 24.7years. In our study majority of the cases were primigravidae 36 cases contributing to 72% of the total study population. Almost 88% of cases were non consanguinous marriages and there are no studies available to compare the incidence of consanguinity & oligohydramnios, thereby significance not known. [9] In the present study the cases of oligohydramnios were diagnosed by clinical examination and confirmed by Ultrasonography. Other investigations like blood grouping & typing, HIV, Hbsag, serum blood urea, creatinine, uric acid and liver function tests were done to find out the cause of oligohydramnios. Ultrasonography is the best means of early detection of oligohydramnios and other associated conditions. [10,11] Diagnosis of decreased amniotic fluid on routine Ultrasonography requires close ante partum observation to detect complications that may arise in pregnancy and delivery. [12] The time of diagnosis of the condition bears a direct relationship to the fetal outcome. In the present study 18 cases (36%) had hypertensive disorders of pregnancy like gestational hypertension, preeclampsia & imminent eclampsia. Anaemia was found to be associated in 9 cases (18%), Rh negative pregnancies with

oligohydramnios in 4cases (8%) and one cases (2%) each was found to be associated with bronchial asthma, VDRL and herpes infection. [13] No cause was found in 19 cases (38%). Premature rupture of membranes, fetal anomalies, twin gestation and intrauterine fetal death as cause of oligohydramnios are excluded from our study. [14] It is not clear whether the adverse perinatal outcomes associated with oligohydramnios reflects the sequelae of these co existing conditions or decreased amniotic fluid itself contributes to the adverse outcome. Other indications were infertility 3cases (8.3%), severe preeclampsia 2cases (5.5%), one case each of CPD, failed induction, [15] bad obstetric history and herpes infection in our study. 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. [16] 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%) & 10 cases (20.8%) respectively. NICU admission was 27 cases (54%) for various reasons like birth asphyxia, meconium aspiration syndrome, preterm care, IUGR and low birth weight. Perinatal mortality rate was 10% and take-home baby rate was 90% in the present study. [17] Good NICU set up will go a long way in reducing perinatal morbidity and mortality¹⁶. 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.

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. 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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