

A study factors associated and outcome of oligohydramnios at tertiary health care centre

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Abstract

Background: The amniotic fluid (AF) is a part of the baby's life support system. It aids in the development of muscles, limbs, lungs and digestive system. Amniotic fluid is produced soon after the amniotic sac is formed at about 12 days after conception. **Aims and Objectives:** To study factors associated and outcome of oligohydramnios at tertiary health care centre. **Methodology:** After approval from institutional ethical committee a cross-sectional study was carried out in the department of OBGY in the patients with oligo-hydramnios admitted during the one year period one year period during March 2016 to March 2018. Those which shown oligohydramnios on USG with the written consent were included into the study. All details of the patients like parity, associated factors if any and outcome of foetus and neonate were recorded. **Result:** The majority of the patients were Nulliparaous i.e. 48.21 %, Primipara were 21.43%, Para two were 16.07%, Para three were 12.50 %, Para four were 1.79. The most common associated factors were Post maturity > 42 weeks were 30.36%, Prolonged pregnancy 40-42 weeks-19.64%, PIH-16.07%, PROM -12.50%, Chronic abruption-8.93%, Chronic renal failure-7.14%, Idiopathic-5.36%. The most common foetal outcome were Preterm birth in 41.07%, followed by IUGR in 30.36%, LBW in 19.64%, Abortion in 5.36%, IUD in 3.57%. The most common Neonatal illness were Respiratory distress syndrome - 32.14%, Sepsis - 23.21%, NICU Admission -19.64, Intracranial bleed - 16.07%, Low APGAR - 8.93%. **Conclusion:** It can be concluded from our study that most common associated factors were Post maturity, Prolonged pregnancy, PIH, PROM, Chronic abruption, Chronic renal failure etc. The most common foetal outcome were Preterm birth, IUGR, LBW, Abortion, IUD. The most common Neonatal illness were Respiratory distress syndrome, Sepsis, NICU Admission, Intracranial bleed Low APGAR.

Key Words: Oligohydramnios, PIH (Pregnancy Induced Hypertension), IUD (Intrauterine Death), Outcome of Oligohydramnios.

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INTRODUCTION

The amniotic fluid (AF) is a part of the baby's life support system. It aids in the development of muscles, limbs, lungs and digestive system. Amniotic fluid is

produced soon after the amniotic sac is formed at about 12 days after conception. It is first made up of effusion that is provided by the mother's circulation and then around the 20th weeks fetal urine becomes the primary substance¹. While debate continues regarding the best method to estimate AFV (Amniotic Fluid Volume), it has become evident that there are numerous maternal and fetal risk factors associated with a reduction of this parameter². Oligohydramnios was defined as AFI \leq 5 cm (Amniotic Fluid Index) or the absence of a pocket measuring at least 2×1 cm³. In some study, a statistical significant difference of FD (Fetal distress) in AFI \leq 5 cm and normal AFI in term and postdate pregnancies was observed. Decreased amount of amniotic fluid, particularly in third trimester, has been associated with multiple fetal risks like, pulmonary hypoplasia,

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intrauterine growth restriction and still births. It is found to be associated with an increased risk of caesarean delivery for fetal distress and low APGAR score. However, some studies done in cases of abnormal liquor volume show that amniotic fluid index is a poor predictor of adverse outcome^{4,5}.

MATERIAL AND METHODS

After approval from institutional ethical committee a cross-sectional study was carried out in the department of OBGY in the patients with oligo-hydramnios admitted during the one year period one year period during March 2016 to March 2018. All the patients undergone routine investigations with Ultrasonography (USG) those which shown oligohydramnios on USG with the written consent were included into the study. All details of the patients like parity, associated factors if any and outcome of foetus and neonate were recorded. The data is presented in proportions and percentages.

RESULT

Table 1: Distribution of the patients as per the parity

Parity	No.	Percentage (%)
P0	27	48.21
P1	12	21.43
P2	9	16.07
P3	7	12.50
P4	1	1.79
Total	56	100.00

The majority of the patients were Nulliparaous i.e. 48.21 %, Primipara were 21.43%, Para two were 16.07%, Para three were 12.50 %, Para four were 1.79.

Table 2: Distribution of the patients as per the associated factors

Post maturity > 42 weeks	17	30.36
Prolonged pregnancy 40-42 weeks	11	19.64
PIH	9	16.07
PROM	7	12.50
Chronic abruption	5	8.93
Chronic renal failure	4	7.14
Idiopathic	3	5.36
Total	56	100.00

The most common associated factors were Post maturity > 42 weeks were 30.36%, Prolonged pregnancy 40-42 weeks-19.64%, PIH-16.07%, PROM -12.50%, Chronic abruption-8.93% Chronic renal failure-7.14%, Idiopathic-5.36%.

Table 3: Distribution of the patients as per the foetal outcome

Foetal outcome	No	Percentage (%)
Preterm birth	23	41.07
IUGR	17	30.36
LBW	11	19.64
Abortion	3	5.36
IUD	2	3.57
Total	56	100.00

The most common foetal outcome were Preterm birth in 41.07%, followed by IUGR in 30.36%, LBW in 19.64%, Abortion in 5.36%, IUD in 3.57%.

Table 4: Distribution of the patients as per the Neonatal illness

Neonatal illness	No.	Percentage (%)
Respiratory distress syndrome	18	32.14
Sepsis	13	23.21
Intracranial bleed	11	19.64
NICU Admission	9	16.07
Low APGAR	5	8.93
Total	56	100.00

The most common Neonatal illness were Respiratory distress syndrome - 32.14%, Sepsis - 23.21%, NICU Admission -19.64, Intracranial bleed - 16.07%, Low APGAR - 8.93%.

DISCUSSION

Oligohydramnios is a relatively common complication of pregnancy and such case is often encounter in clinical practice.⁶ It refers to amniotic fluid volume that is less than expected for gestational age. It is typically diagnosed by ultrasound examination and may be described qualitatively (e.g. normal, reduced) or quantitatively (e.g. amniotic fluid index [AFI]^{7,8} Oligohydramnios is often to describe pregnancies with AFI⁹ Alternatively, some clinicians prefer the single vertical pocket (SVP) with severe oligohydramnios defined as SVP less than 1 cm and mild oligohydramnios defined as SVP 1 to 2 cm.¹ An adequate volume of amniotic fluid is critical to allow normal fetal movement and growth, and to cushion the fetus and umbilical cord.¹⁰ Reported rates of oligohydramnios are influenced by variations in diagnostic criteria, the population studied (low or high risk, screening or indicated ultrasound examination), the threshold used and the gestational age at the time of the ultrasound examination (preterm, term or post term).¹¹ Oligohydramnios may inhibit these processes and can lead to fetal deformation, umbilical cord compression and death.¹² A study of 3050 uncomplicated pregnancies with singleton non-anomalous fetuses between 40 and 41.6 weeks of gestation noted oligohydramnios (defined as AFI less than 5) in 11 percent.¹³ The incidence is high in laboring women, largely due to rupture of fetal membranes during or just before labor.¹⁴ In our study we have seen that The majority of the patients were Nulliparaous i.e. 48.21 %, Primipara were 21.43%, Para two were 16.07%, Para three were 12.50 %, Para four were 1.79. The most common associated factors were Post maturity > 42 weeks were 30.36%, Prolonged pregnancy 40-42 weeks-19.64%, PIH-16.07%, PROM -12.50%, Chronic abruption-8.93%, Chronic renal failure-7.14%, Idiopathic-5.36%. The most common foetal outcome were Preterm birth in 41.07%, followed by

IUGR in 30.36%, LBW in 19.64%, Abortion in 5.36%, IUD in 3.57%. The most common Neonatal illness were Respiratory distress syndrome - 32.14%, Sepsis - 23.21%, NICU Admission -19.64, Intracranial bleed - 16.07%, Low APGAR - 8.93%. These findings are similar to Anisodowleh Nankali¹⁵ they found that there was no statistically significant difference regarding maternal age, gestational age, gravidity and parity between case and control group. Results of the present study revealed that the rate of cesarean was significantly higher in oligohydramnios group compared to the control group (75.3% vs. 36.5% respectively). There was statistically significant increasing in meconium passage in control group compared to oligohydramnios group (17.1% vs. 5.9% respectively). Mean of first minute and five minute APGAR score, mean of birth weight, fetal sex and need to admission to NICU were not statistically different between two group of study

CONCLUSION

It can be concluded from our study that most common associated factors were Post maturity, Prolonged pregnancy, PIH, PROM, Chronic abruption, Chronic renal failure etc. The most common foetal outcome were Preterm birth, IUGR, LBW, Abortion, IUD. The most common Neonatal illness were Respiratory distress syndrome, Sepsis, NICU Admission, Intracranial bleed Low APGAR.

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