



TO DETERMINE FETOMATERNAL OUTCOMES IN TERM SINGLETON PREGNANCY WITH OLIGOHYDROAMNIOS.

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ABSTRACT

Background- The amniotic fluid is the fluid that collects within the amniotic cavity surrounding the embryo. Amniotic fluid is the fluid that surrounds the embryo within the layer of amniotic sac.

Aims- A study of fetomaternal outcomes of oligohydramnios beyond 28 weeks of gestation in a singleton pregnancy.

Methods and materials- Present study is a hospital-based study on fetomaternal outcome in term gestation with oligohydramnios in a singleton pregnancy, was carried out in Department of Obstetrics & Gynecology, Peoples College of Medical Sciences and Research Centre, Bhopal, during the period of January 2022 to January -2024. All data entered into tables and charts.

Results- The highest no of patients with oligohydramnios in this study were in the age group of 20-23 years. Total number of NICU admissions were 94 babies. 47% fetuses with oligohydramnios had NICU admissions. Maximum patients with oligohydramnios were second gravida. Highest number of patients with oligohydramnios were delivered by LSCS. More number of patients were seen with NST reactivity (62.8%) than with non-reactivity (37.2%). Maximum number of patients are with a reactive NST -125 patients compared to 74 patients with non-reactive NST. The mean weight of babies with oligohydramnios in the present study is 2 kgs. 59 patients were with a baby weight of 2 kgs. Highest number of babies were born with an average birth weight of 2 kgs. Maximum LSCS in the present study was done for fetal distress (24.5%), followed by CPD (23.8%) and IUGR (18.5%). Maximum number of patients with oligohydramnios were having clear liquor (61.3%) compared to patients with meconium stained liquor (38.7%). Maximum number of patients with oligohydramnios have spontaneous onset of labour (125 patients) compared to patients with induced labour (75 patients) in the present study.

Conclusion- From this study, we conclude that oligohydramnios is a high-risk pregnancy and proper antepartum care, intensive fetal surveillance and intrapartum care are required in patient with oligohydramnios. Every case of oligohydramnios needs careful antenatal evaluation, parental counseling, individualization, decisions regarding time and mode of delivery. Continuous intrapartum fetal monitoring and good neonatal care are necessary for better perinatal outcome

Keywords- oligohydramnios, LSCS, meconium, labour, pregnancy.

Introduction- The amniotic fluid is the fluid that collects within the amniotic cavity surrounding the embryo. Amniotic fluid is the fluid that surrounds the embryo within the layer of amniotic sac. Amnion is formed by inner ectoderm and outer mesoderm layer. Normal amniotic fluid volume is 1000-2500ml at term or single deepest vertical pocket of 2-8cm or amniotic fluid index of 6-24cms. [1] Homeostasis of body fluids is important in the growing fetus. In addition to the constant circulation of amniotic fluid through inhalation and exhalation, there must be a balance between fluid formation and elimination. [2]

The formation originates from fetal urine and lung secretions; however, elimination which is important for balance and homeostasis, is largely the result of fetal swallowing and intramembranous absorption. Despite large fluxes of fluid between the various compartments near term (500–700 ml/day through urine; 200–450 ml/day through deglutition), the net increase of amniotic fluid is only 5– 10 ml/day in the third trimester. After 38 weeks, fluid volume declines by approximately 125 ml/week, to an average volume of 800 ml at 40 weeks.[3][4] After 43 weeks, this volume is reduced to 250 ml.

In some instances, this reduction may possibly reflect a shift of cardiac output away from the kidneys as a result of a relative uteroplacental insufficiency.[5]

Changes in the amniotic fluid throughout pregnancy-As per study conducted by Brace and Wolf and its observation. [6] With normal maximal vertical pocket (MVP), the perinatal mortality is 2-4/1000. With decreasing amniotic fluid volume (MVP) of 1-2cm it increases 13-fold, and with MVP (<1cm) the mortality increases to 47-fold.[7][8][10] Oligohydramnios as defined as decreased liquor or amniotic fluid index (AFI) \leq 5cms (normal level-8-15cms) or single deepest vertical pocket <2cms.[9]

Aims- A study of fetomaternal outcomes of oligohydramnios beyond 28 weeks of gestation in a singleton pregnancy.

Methods and materials- Present study is a hospital-based study on fetomaternal outcome in term gestation with oligohydramnios in a singleton pregnancy, was carried out in Department of Obstetrics & Gynecology, Peoples College of Medical Sciences and Research Centre, Bhopal, during the period of January 2022 to January -2024.

INCLUSION CRITERIA:

- ✓ Singleton pregnancy
- ✓ Term pregnancies with Gestational age >37 weeks
- ✓ Pregnancies without anomaly with intact membranes

EXCLUSION CRITERIA:

- ✓ Singleton pregnancy with gestational age <37weeks
- ✓ Patients with multiple gestation
- ✓ Patients with fetus having congenital anomalies like renal agenesis, polycystic kidney disease, VACTERAL anomalies.
- ✓ Ruptured membranes or leaking PV

Sample size-200 patients

Observations and results- Present study is a hospital-based study on fetomaternal outcome in term gestation with oligohydramnios in a singleton pregnancy, was carried out in Department of Obstetrics & Gynecology, Peoples College of Medical Sciences and Research Centre, Bhopal, during

the period of January 2022 to January -2024.

Figure no- 1 age distribution
AGE GROUPS

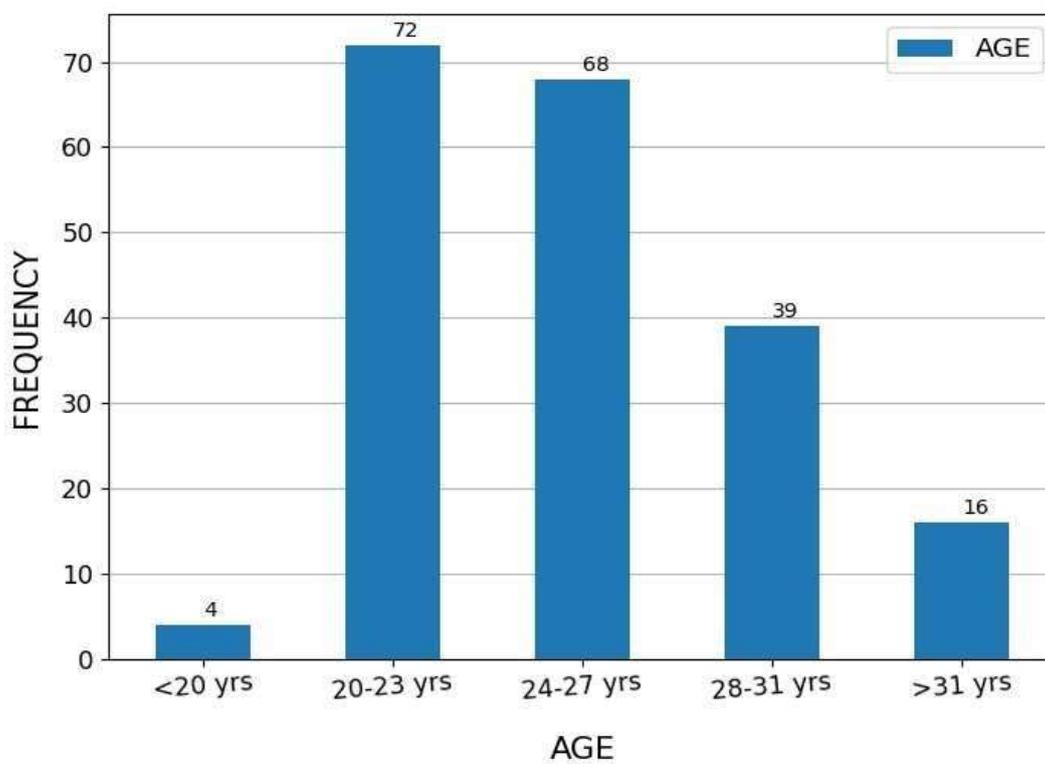


Table showing age distribution of patients with oligohydramnios. The highest no of patients with oligohydramnios in this study were in the age group of 20-23years. Total number of NICU admissions were 94 babies. 47% fetuses with oligohydramnios had NICU admissions.

Figure no- 2 distribution of gravida
Frequency Distribution of Gravida

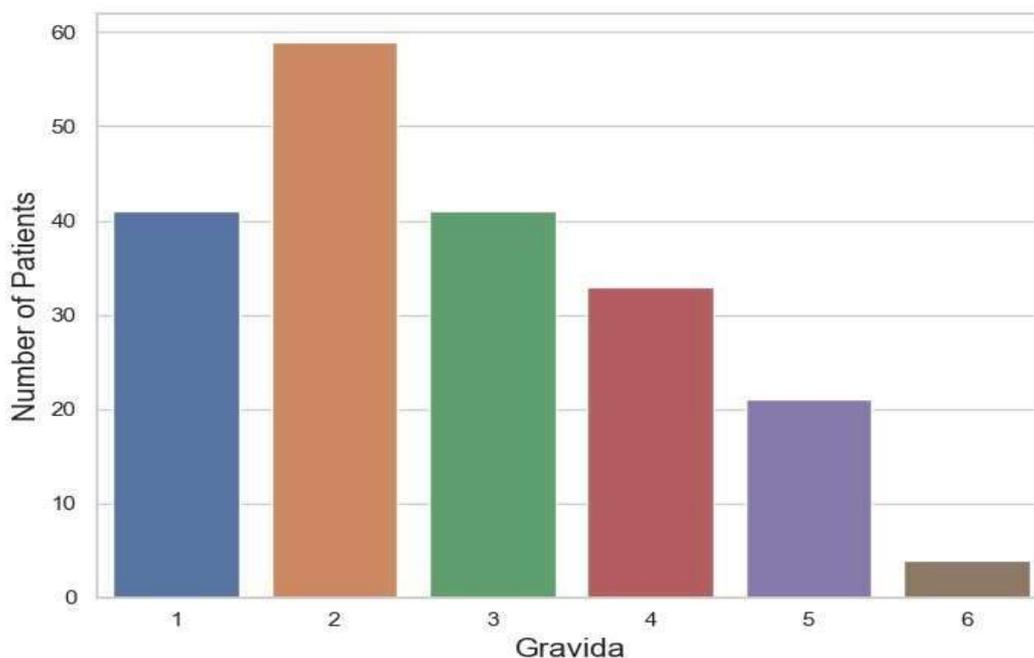


Figure-no 2 of patients with oligohydramnios and its relationshipwith parity. Maximum patients with oligohydramnios were second gravida.

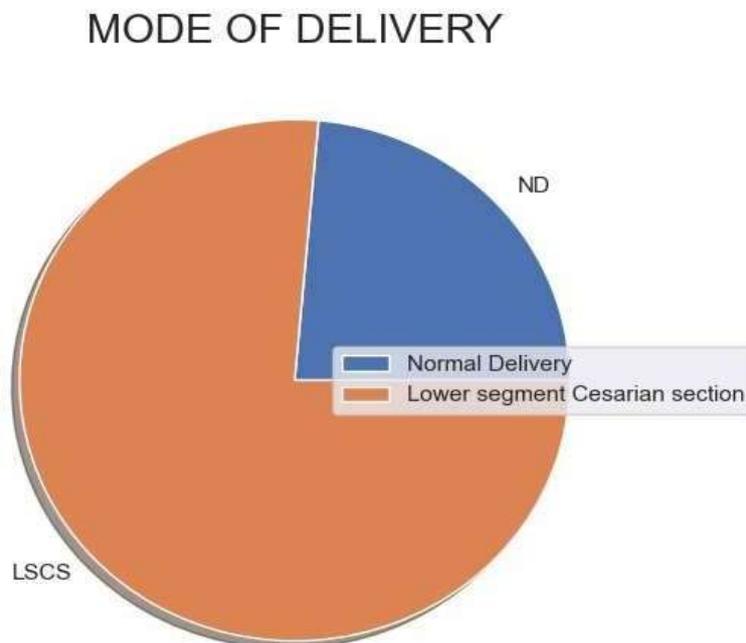
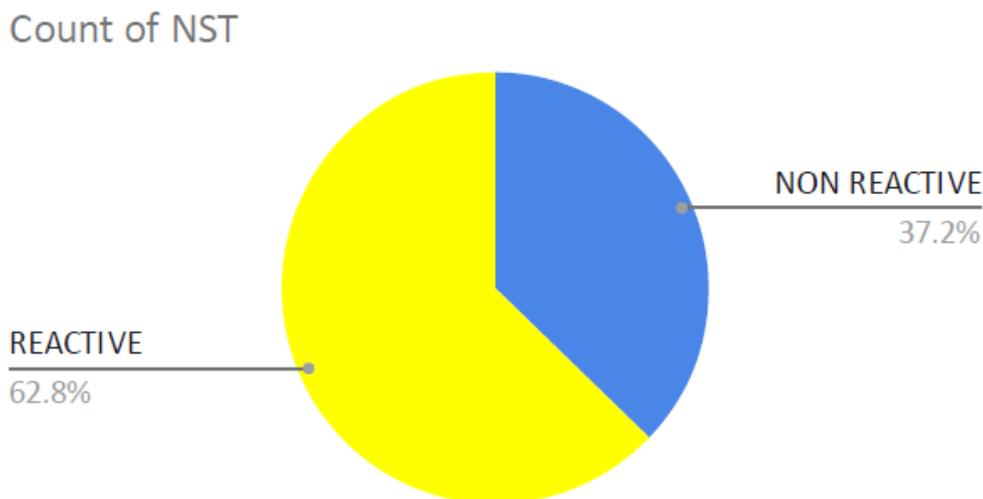


Figure no- 3 mode of delivery

Figure- 3 mode of delivery in oligohydramnios patients. Highest number of patients with oligohydramnios were deliveredby LSCS.

More number of patients were seen with NST reactivity (62.8%) than with non-reactivity (37.2%). Maximum number of patients are with a reactive NST -125 patients compared to 74 patients with non-reactive NST.

Figure no- 4 NST reactivity



The mean weight of babies with oligohydramnios in the present study is 2 kgs. 59 patients were with a baby weight of 2kgs. Highest number of babies were born with an average birth weight of 2 kgs. [figure- 5]

Figure no- 5 weight distribution

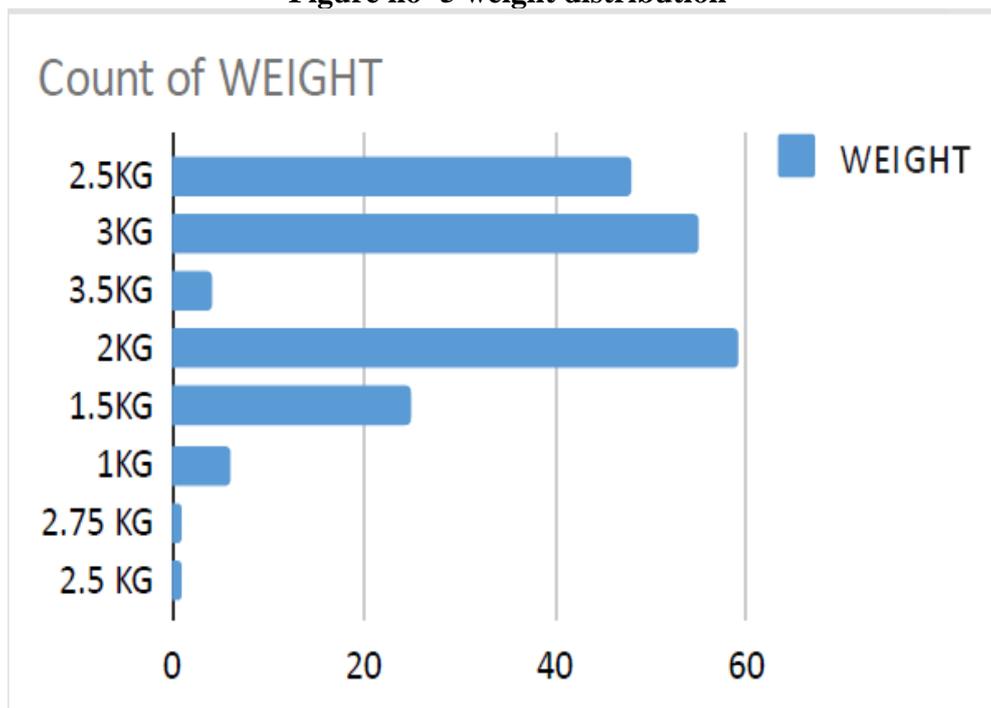
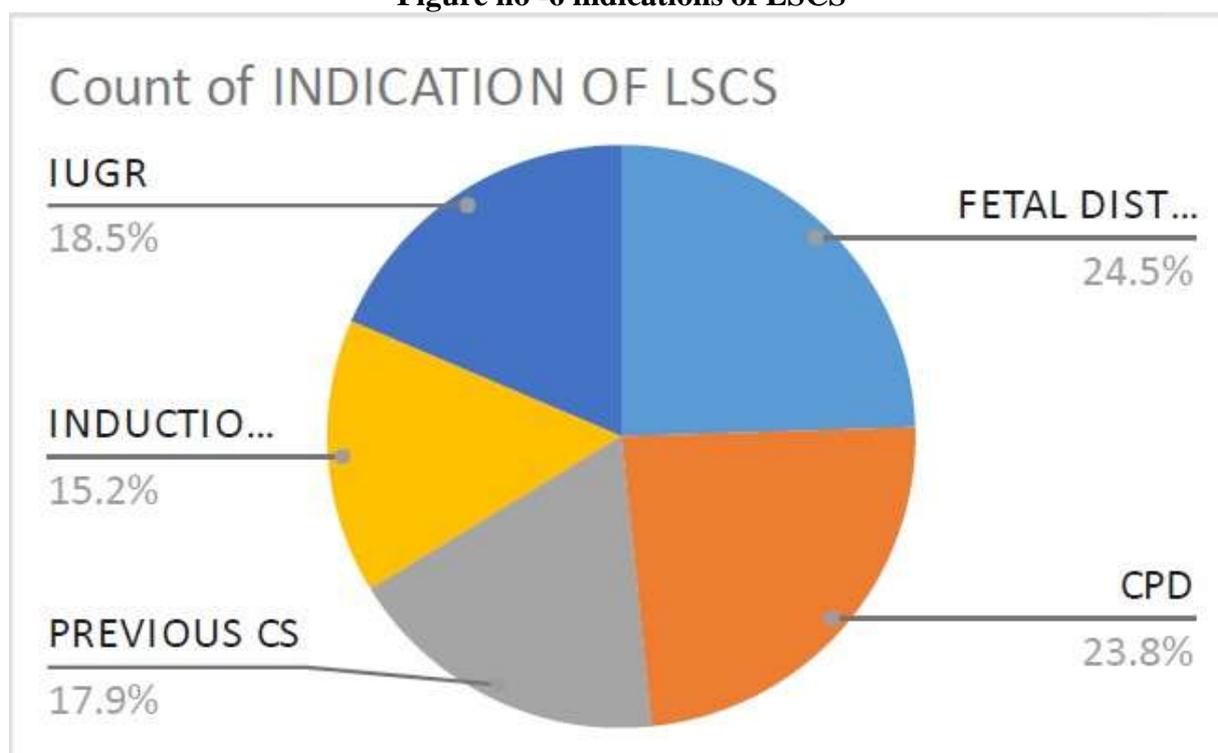


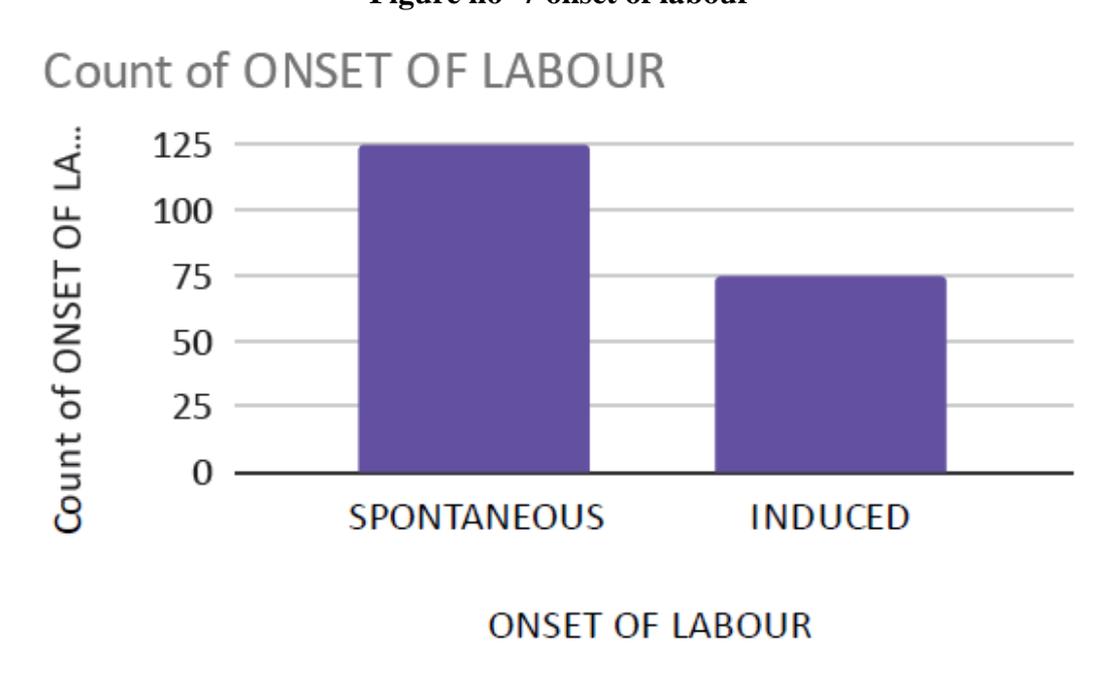
Figure no -6 indications of LSCS



Pie-chart showing distribution of various indications of LSCS maximum LSCS in the present study was done for fetal distress (24.5%), followed by CPD (23.8%) and IUGR (18.5%).

Pie-chart showing colour of liquor, Maximum number of patients with oligohydramnios were having clear liquor (61.3%) compared to patients with meconium-stained liquor (38.7%).

Figure no- 7 onset of labour



Maximum number of patients with oligohydramnios have spontaneous onset of labour (125 patients) compared to patients with induced labour (75 patients) in the present study.

DISCUSSION

Present study is a hospital-based study on fetomaternal outcome in term gestation with oligohydramnios in a singleton pregnancy, was carried out in Department of Obstetrics & Gynecology, Peoples College of Medical Sciences and Research Centre, Bhopal, during the period of January 2022 to January -2024.

Oligohydramnios can lead to an increase in perinatal mortality and morbidity. Under these conditions, there is increased frequency of meconium-stained liquor, fetal distress, low APGAR scores, abnormal fetal heart rates.

Casey & coworkers (2001) conducted a study on pregnancy outcome after diagnosis of oligohydramnios, and found that there was an increase in induction of labour (42% over 18%), non-reassuring fetal heart rate patterns (48% vs 39%), NICU admission (7% over 2%), MSAF (1% over 0.1%), neonatal death rate (5% over 0.3%) associated with oligohydramnios. [12]

Chamberlain & coworkers 1993, found there was a significance between incidence of congenital anomaly, IUGR related to amniotic fluid volume. [14]

Yousef et al 1993 conducted a study on measurement of AFI and fetal outcome and found AFI more than 5cm had better chance of predicting a good fetal outcome.

Golan & coworkers (1994) assessed fetal outcome in 145 babies with oligohydramnios and found increased incidence of fetal distress, MSAF (29%), IUGR (24.5%), breech (17%), birth asphyxia (11.5%).

Chauhan S P & coworkers (1999) found increased risk of caesarean delivery with antepartum and intrapartum AFI \leq 5cm, due to fetal distress and such babies had low apgar score at 5 mins. [11]

Baron and coworkers (2000) compared patients with AFI \leq 5cm with normal AFI patients. Oligohydramnios resulting in caesarean section due to fetal distress was studied and found to have sensitivity of 78%, specificity of 74%, positive predictive value of 33%, negative predictive value of 95%. [13]

Locatelli A 2004 suggested that oligohydramnios was associated with high risk of low birthweight

in postdated pregnancies. [1]

CONCLUSION

From this study, we conclude that oligohydramnios is a high-risk pregnancy and proper antepartum care, intensive fetal surveillance and intrapartum care are required in patient with oligohydramnios. Every case of oligohydramnios needs careful antenatal evaluation, parental counseling, individualization, decisions regarding time and mode of delivery. Continuous intrapartum fetal monitoring and good neonatal care are necessary for better perinatal outcome

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