A STUDY OF THIRD TRIMESTER OLIGOHYDRAMNIOS AND ITS MATERNAL AND FETAL OUTCOME

Obstetrics & Gynaecology

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ABSTRACT

Background: Oligohydramnios is defined as amniotic fluid index <5cm sonographically.⁵ Various complications to fetus like meconium stained liquor, IUGR, cord around neck, fetal distress, congenital anomaly, low birth weight, low Apgar score which leads to increase NICU admissions are seen. Increase rate of caesarian section compared to vaginal birth exposes mother to further operation related complications.^{6,7}

Methodology: A cross sectional study was carried out among 124 patients who presented with oligohydramnios and got admitted in obstetric ward.

Result: Oligohydramnios seen more in gestational age from 36.1 to 42 weeks (51%) and less from 28.1 to 32 weeks (15%). 62% AFI is between 3 5cm and 38% <3cm. Complications like meconium stained liquor (19%), IUGR (18%), cord around neck (15%), fetal distress (21%) also checked in form of low Apgar score (23%), congenital anomaly (4%), NICU admission (62%), increased rate of LSCS (76%) than vaginal delivery (24%) seen..

KEYWORDS

Caesarian, NICU, Mortality, Morbidity, Oligohydramnios

INTRODUCTION:

Obstetrics is considered with both fetal and maternal well-being in which liquor has its importance in antenatal fetal surveillance.² Liquor surrounds fetus allowing it to move and grow freely also giving protection against any kind of mechanical or biological shock, cord injury, cord compression and helps in cervical dilation.^{3,4}

As originally described by Phelan et al in 1987, oligohydramnios refers to amniotic fluid volume less than expected for gestational age, being typically diagnosed by USG quantitatively (AFI <5cm).⁵ Adequacy of amniotic fluid volume is estimated with ultrasonic measurements.¹ Some studies had shown AFI to be a predictor of adverse outcome. A study examined usefulness of umbilical artery doppler velocimetry, amniotic fluid volume assessment and fetal heart rate data in early intrapartum period found as predictor of subsequent fetal distress.²⁰ This study was carried out to find association of oligohydramnios with mode of delivery and perinatal outcome, beyond 28wks of pregnancy.

MATERIAL AND METHODS:

A prospective observational study was done where all cases which met inclusion criteria were enrolled. 124 cases with diagnosis of oligohydramnios were considered to analyse mode of delivery and neonatal outcome. Data collected using pre designed, pretested questionnaire and by hospital records. Gravity, gestational age according to last menstrual period and according to sonography, liquor amount, other pregnancy related complications in fetus, mode of delivery, fetal outcome (Apgar score, birth weight, live birth, still birth), NICU admissions were considered. The data then compiled, tabulated, analysed by using proper statistical tools like frequency of cases and its percentage.

Ethical Consideration: Written consent was obtained from participant and they were given freedom to refuse to be part of study. Participants confidentiality was maintained.

RESULTS:

During the study 124 patients meeting inclusion criteria were followed to document mode of delivery and neonatal outcome.

Table No:1 Maternal Characteristic And Mode Of Delivery In Oligohydramino

CHARACTERISTICS	CASES (n=124)	PERCENTAGE OF CASES (%)
AFI	3-5CM	77
	5CM	47
GESTATIONAL	28.1-32	18
		15

AGE	32.1-36	42	34
	36.1-42	64	51
ASSOCIATION	P.I.H	21	17
	POSTDATE	13	10
	UNEXPLAINED	90	73
MODE OF DELIVERY	NORMAL DELIVERY	30	24
	CAESERIAN SECTION	94	76

Table No:2 Complications In Fetus

COMPLICATIONS	CASES (n=124)	PERCENTAGE OF CASES
Meconium Stained Liquor	24	19
IUGR	22	18
Cord Around Neck	19	15
FETAL DISTRESS	26	21
CONGENITAL ANALOMY	4	4
LOW BIRTH EIGHT	<=2.5Kg	85
	>2.5Kg	39
NICU Admission	77	62
ALIVE	114	91
APGAR	>5/10	95
	<5/10	29
NEONATAL DEATH	10	9

During the study, 124 patients who completed 28 weeks of gestation with AFI <5cm who met inclusion criteria. It was observed that maximum number of oligohydramnios (51%) were admitted were between 36.1 to 42 weeks of gestation. Also mode of delivery was normal in 24% only, rest (76%) had caesarian section for which indication being severe oligohydramnios or its related complications like fetal distress, meconium stained liquor etc. Further, oligohydramnios was associated with poor Apgar score, neonatal admission, mortality.

DISCUSSION:

Assessment of amniotic fluid volume during the antenatal period is considered a helpful tool in determining who is at risk for adverse neonatal outcome.⁹ Hence, the study was undertaken to assess the value of oligohydramnios in mode of delivery and neonatal outcomes. Present results are comparable to similar studies done before.

Most of the patients (43%) with oligohydramnios were of ≥40 weeks of gestation. Postdated pregnancy is a quite frequent phenomenon in our setting. Around 10% patient having oligohydramnios were

postdate compared to studies conducted before like ¹⁸Bowen Chatter et al (7.2%) and around 17% were diagnosed with pregnancy induced hypertension were compared to studies done before like Golan A et al (22.1%)¹⁶, Mercer L J et al (24.7%)¹⁷, Chauhan P et al (12%)¹⁹.

Intrauterine growth retardation is associated with oligohydramnios, but not always. Hence, we have included patients who were diagnosed to have intrauterine growth retardation without obvious reasons such as maternal diseases-pregnancy induced hypertension, heart disease, chronic renal diseases, collagen vascular diseases, and anemia. Various studies show different rates of LSCS in oligohydramnios patients while comparing with. The rate of LSCS was (76%) in our study. Our results correlate with the results of the study carried out by Chandra *et al.* and Visvalingam *et al.*^{10,11} In addition, Nazlima and Fatima found that 71% of women underwent LSCS in oligohydramnios group.⁸ The reason for higher incidence of cesarean section in our study was because of the complication related to oligohydramnios like fetal distress, meconium stained liquor etc.

Concerning the neonatal outcome, our study showed statistically significant low APGAR score in oligohydramnios (23%) . Similar results were observed by Nazlima and Fatima and Chandra *et al.*^{8,10} On the contrary, Ahmad and Munim noticed no significant differences in APGAR scores between the two groups.¹² In the present study, neonatal admission was found to be significantly higher in oligohydramnios . In this respect, many other authors Chate *et al.*, Johnson *et al.* and Sriya and Singhal also found statistically significant NICU admission.¹³⁻¹⁵

CONCLUSION:

Oligohydramnios detected by ultrasonography with AFI range below or equal to 5cm , if detected before 37 weeks indicates comparatively good perinatal outcome. From this study, we conclude that in third trimester, the complications resulting in the caesarian section was high in order to improve the fetal outcome. So screening for AFI in third trimester pregnancy and proper antenatal checkup help to reduce maternal risk factors and improve the fetal outcome.

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