



ORIGINAL RESEARCH PAPER

Gynaecology

A STUDY OF PERINATAL OUTCOME IN TERM ISOLATED OLIGOHYDRAMNIOS

KEY WORDS: Term fetus, oligohydramnios, perinatal outcome

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ABSTRACT

Amniotic fluid forms physical space required for fetal musculo-skeletal development. It allows fetal swallowing needed for gastro intestinal development and fetal breathing, required for lung development. It prevents from umbilical cord compression and protect fetus from trauma. It has got bacteriostatic properties. It maintains core body temperature of embryo. Amniotic fluid helps in surfactant development. Aim of my study is perinatal outcome in term isolated oligohydramnios

INTRODUCTION

Life of human beings starts in aquatic pond. Liquor amnion is like an aquatic pond. It is a fluid filled medium inside the amniotic cavity necessary for fetal growth and development. Pregnancy is such a precious and wonderful thing a woman's life that it should continue without any adverse outcome. Decrease of liquor amnion is attributed to so many causes that isolated oligo hydramnios where there is no fetal and maternal exist, unnecessary pregnancy intervention should be avoided.

Liquor amnii inside the uterine cavity provides suitable environment for the fetus to grow and thrive. It is as similar as plasma fluid with some little variation.

Composition of amniotic fluid compared to plasma

	AMNIOTIC FLUID	PLASMA
Sodium	Similar	Similar
Chloride	Higher	Lower
Potassium	Similar	Similar
Urea	Lower	Higher
Glucose	Lower	Higher
Protein	Lower	Higher
Carbon di oxide	Lower	Lower
Creatinine	Similar	Similar

Role of amniotic fluid during pregnancy

Amniotic fluid forms physical space required for fetal musculoskeletal development. It allows fetal swallowing needed for gastro intestinal development and fetal breathing, required for lung development. It prevents from umbilical cord compression and protect fetus from trauma. It has got bacteriostatic properties. Amniotic fluid volume maintains amniotic fluid pressure thereby reducing the loss of lung liquid-an essential component to pulmonary development (Nicolini,1989).It maintains core body temperature of embryo. Amniotic fluid helps in surfactant development.

Amniotic fluid volume differs according to gestational age while it increases approximately 30 ml at 10 weeks to 200 ml by 16 weeks and reaches 800 ml by the mid of 3rd trimester. Beyond 40 weeks there is decline in amniotic fluid volume. At 42 weeks amniotic fluid volume is about 400 ml approximately. When there is decline in amniotic fluid volume, this condition is termed as oligohydramnios, while abnormally increased amniotic fluid volume is termed as polyhydramnios. Oligohydramnios due to placental insufficiency is associated with an increased risk of caesarean delivery for

- Fetal distress
- Low Apgar score
- Postmaturity
- MAS(Meconium aspiration syndrome)

- Perinatal mortality and morbidity

Associated condition of maternal and fetal condition in oligohydramnios:

- Congenital malformation
- Diabetes
- Hypertensive disorders
- Preterm premature rupture of the fetal membranes and intrauterine growth restriction.

All the above associated factors can cause foetuses to adverse perinatal outcome, but present study is undertaken on isolated oligohydramnios, where no other maternal or fetal condition co-exist and its effect on perinatal outcome.

AIM OF THE STUDY

To determine the perinatal outcome in term isolated oligo hydramnios.

Materials and Methods

A descriptive study on the perinatal outcome in term of isolated oligohydramnios with AFI<5,carried out in Institute of obstetrics and gynecology, Govt hospital for women and children, attached to Madras medical college,Chennai-8,during the period of February 2016 to September 2016.

Inclusion criteria

- AFI < 5
- SLIUG with cephalic presentation
- 37 to 40 weeks of GA
- Intact membrane

Exclusion criteria

- Patient with ruptured membrane
- Congenital anomaloli of the fetus
- Multiple gestation
- GA<37 or > 40 weeks
- High risk pregnancy

Sample size: 100

History taking done regarding:

- Age
- Parity
- Gestational age
- Obstretic history
- Any co morbid illness or fetal congenital anomalies ruled out any complication in present pregnancy noted.
- Examination of the patient

OBSERVATION

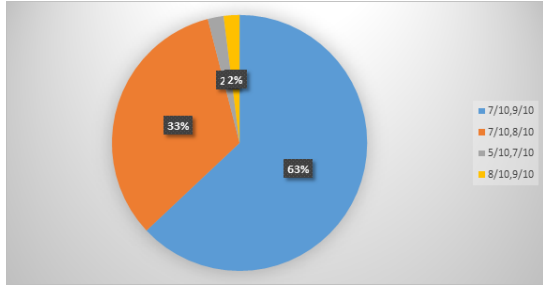
The study undertaken presently is a descriptive analysis of 100 patients to study the perinatal outcome in term of isolated

oligohydramnios in pregnancy with amniotic fluid index 5 cm or less.

Total no of patients selected for the study is 100.

APGAR in 1 min and 5 mins

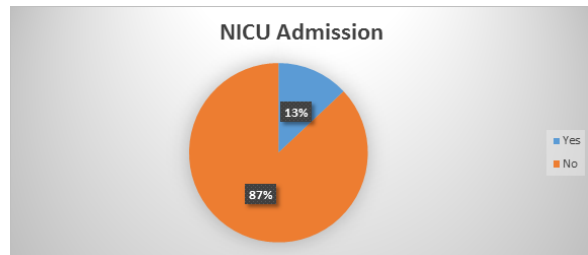
		Frequency	Percent
Valid	7/10,8/10	19.0	19 %
	7/10,9/10	37.0	37 %
	5/10,7/10	1.0	1.0%
	8/10,9/10	43.0	43%
	Total	100	



Above table and chart shows, overall APGAR score is good.

NICU admission

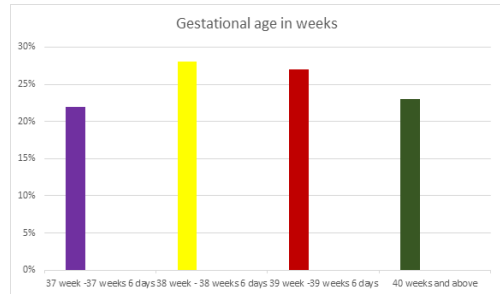
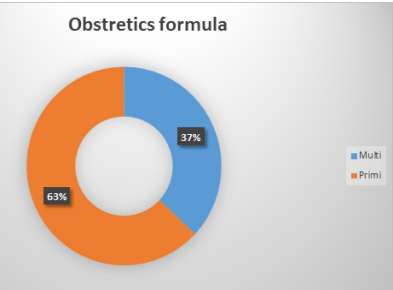
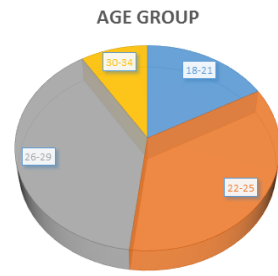
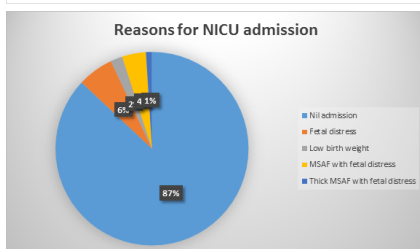
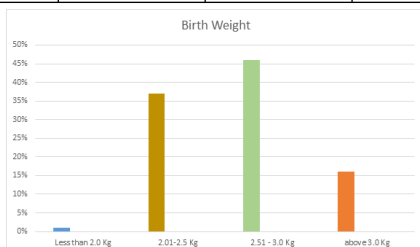
	Frequency	Percent	Valid percent	Cumulative Percent
Nil admission	87	87.0	87.0	87.0
Admission	13	13.0	13.0	100.0
Total	100.0	100.0	100.0	100.0



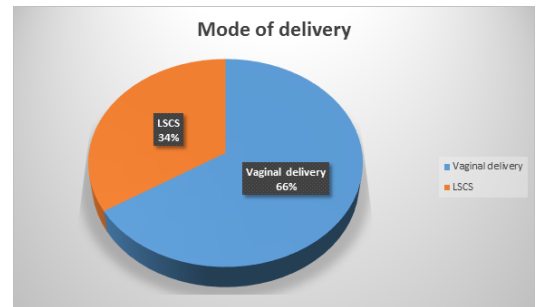
The above table shows only 13 % of baby needed NICU admission.

Birth weight

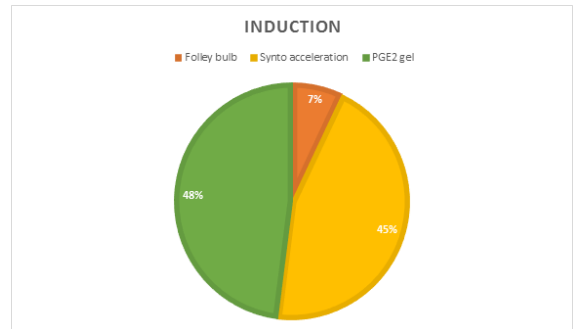
		No of cases	Percent
Valid	Less than 2 kg	1	1.0
	2.01-2.5 kg	37	37.0
	2.51 -3 kg	46	46.0
	Above 3 kg	16	16.0
	Total	100	100.0



The above table shows that 37 to 39 completed weeks is 73 % while 40 weeks and above is 23 %.



Incidence of vaginal delivery is 34% while LSCS is 34%.



NORMAL VAGINAL DELIVERY

	No. of cases	Percentage
Spontaneous labor	39	61.0
PGE2 Gel	11	17.0
ARM synto acceleration	12	19.0
Folley Bulb	2	3.0
Total	64	100.0

DESCRIPTIVE ANALYSIS

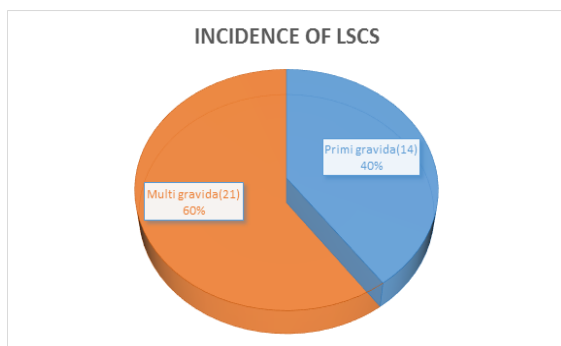
	N	Minimum	Maximum	Mean	Standard deviation
Age	100	18.55	34.0	25.32	3.345
Birthweight	100	1.55	3.70	2.6732	.32941
Valid N(likewise)	100				

DOPPLER FINDING

		Frequency	Percent
Valid	Both uterine artery and umbilical artery high resistance flow	1	1.0
	High resistance flow in umbilical artery	1	1.0
	Normal	98	98.0
	Total	100	100

Indication for LSCS

	No of cases	Percentage
Oligo/Failed induction	3	9.0
CPD	4	13.0
Non reactive CTG	1	3.0
Severe oligo/IUGR	1	3.0
Fetal distress	10	31.0
Fetal distress with severe oligohydramnios	6	19.0
Severe Oligohydramnios	7	22.0
Total	32	100.0



DISCUSSION

“Oligo hydramnios is associated with perinatal mortality and morbidity. Fetal heart rate abnormality and low Apgar score is more common findings. Neonatal and fetal acidosis rates were high as compared to controls (Moore et al). In this study 150 cases with AFI 5cm or less is compared with control group 150 cases with AFI>5 cm. In the study group -27 cases of pre- eclampsia, 26 cases of post EDD, 22 cases of previous LSCS, 13 cases of breach. In control group – 19 cases of pre-eclampsia, 13 cases of post EDD, 25 cases of previous LSCS, 6 cases of breech presentation was taken”. In study conducted by Casey et al B.M 2001 pregnancy outcomes after antepartum, diagnosis of oligo hydramnios at or beyond 34 weeks gestation in 147 cases. This complication was associated with increase in labour induction (48%), non-reassuring heart rate (48%), NICU admission (7%), MSAF (1%) and neonatal death rate (5%). In a study by Golan et al 1994, fetal outcome in 145 cases, they found increase incidence of fetal distress, MSAF (29.1%), IUGR(24.5%),Breech(17%),asphyxia during labor(11.5%),corrected PNMR(10%)”. “Chamberlain and co-workers 1993, the incidence of major congenital anomaly and IUGR significantly associated with AFI. Youseef et al 1993 concluded in medical journal that study of AFI estimation and perinatal outcome in pregnancy is superior in deducing fetal outcome”. “In study conducted by Locatelli A 2004 of perinatal outcome associated with isolated oligohydramnios in uncomplicated pregnancies, independently related to increases risk of low birth weight percentile”.

Study by Baron C and co-workers 2000 showed effect of amniotic fluid volume on intrapartum perinatal outcome with AFI less than or equal to 5 cm. The efficacy of oligohydramnios predicting caesarean delivery gave a sensitivity of 78 %, a specificity of 74 %, and positive predictive value of 33% and negative predictive value of 95 %. The AFI for detecting oligo hydramnios is valuable screening test for subsequent fetal distress requiring caesarean delivery. Isolated oligohydramnios is not an uncommon finding. Cohort studies have shown an association between oligohydramnios and higher rates of labour induction and caesarean section because of non-reassuring FHR tracing, as well as adverse perinatal outcome. Trends in AFV within the normal range do not have prognostic significance. Some providers induce labour for oligohydramnios at term to reduce perinatal morbidity and mortality, although the quality of evidence is low and the grade of recommendation is weak. (June 01,2014 by Alessandro Ghidini MD, Marta Schiliro MD,Anna Locatelli MD).

SUMMARY

In this study perinatal outcome is good with 62 % normal vaginal delivery and 38 % caesarean delivery with 13 % of NICU admission due to fetal distress, low birthweight, MSF with fetal distress. No case of neonatal death noted. Induction is 24 % either in the form PGE2 gel induction or synto acceleration.

CONCLUSION

Oligo hydramnios contribute 2 to 3 percent of all pregnancies and can be classified into Early and Late onset. Early and Late onset gives some clue about the underlying pathology. Some contemporary which causes early and late onset oligohydramnios adversely affect the pregnancy outcome. When all the maternal and fetal cause is excluded, isolated oligohydramnios is diagnosed. Decrease in liquor volume, which can cause umbilical cord compression, utero placental insufficiency and meconium stained liquor, can cause adverse outcome, but present study on isolated oligohydramnios is concluded with good perinatal outcome with no perinatal mortality and morbidity. Considering the indication for caesarean section actual reason for NICU admission rate for caesarean section can be decreased by intra partum close fetal surveillance.

References

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