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Oligohydramnios maternal & fetal outcome in pregnant females

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ABSTRACT

Oligohydramnios is considered to be one of the most common complication diagnosed more frequently these days due to frequent usage of ultrasonography. Due to oligohydramnios , risk of intrapartum complications, perinatalmorbidity and mortality increases. The aims of this study are to study the maternal and fetal effects ofoligohydramnios, to evaluate the causesof oligohydramnios and to evaluate the perinatal morbidity andmortality.

Key Words: Maternal,fetal,, amniotic, fluid, oligohydramnios

Introduction

Amniotic fluid acts as a cushion and helps in growth and development of fetus in sterile environment by regulating temperature, providing nutrition, avoiding external injury and impact of uterine contractions. During labour , it helps in dilatation of cervix and, prevents cord compression. So study of amniotic fluid provides useful information about the well being of fetus and also maturity of fetus. Volume of amniotic fluid decreases with increasing gestational age and reaches approximately 1000ml by term. . Excess or less volume of amniotic fluid is assessed by amniotic fluid Index (AFI) using four quadrant technique during transabdominal USG [1]. Decrease in amniotic fluid volume is known as oligohydramnios. Oligohydramnios is considered severe when value of AFI is less than 5cm. AFI between 5 to 8 is termed as borderline oligohydramnios. Oligohydramnios may develop in any trimester but found more commonly in third trimester. About 12%woman may develop oligohydramnios after 42 weeks, due to receding placental function[2].Decreased value of AFI has been positively correlated with increased risk of intrauterine growth retardation, birth asphyxia meconium aspiration syndrome , low APGAR scores & high risk of congenital anomalies [3,4]. Oligohydramnios is also associated with maternal morbidity in terms of increased rates of induction and operative interventions. For better perinatal out come increased induction of labour and caesarean deliveries are currently performed. Early detection of oligohydramnios and its management may help in reduction of perinatal morbidity and mortality and reduced operative rates.

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Material and Methods

The study was conducted in Kalpana Chawla govt. medical college, Karnal during a period of 8 months from 1 December 2016 to 30 April 2017 after satisfying inclusion and exclusion criteria. This study was conducted in 192 randomly selected patients who completed 28 weeks of pregnancy and above with oligohydramnios, Borderline Oligohydramnios patients were monitored by fetal. surveillance test on out patient basis. Detailed and thorough examination of the patients was done and diagnosis of oligohydramnios

was confirmed by measuring AFI on ultrasonography. Associated complications, type of delivery conducted, fetal outcome , perinatal morbidity & mortality were thoroughly studied in all these patients. Present study was conducted in 192 patients of Oligohydramnios selected randomly after satisfying inclusion and exclusion criteria.

Inclusion Criteria

Antenatal patients in third trimester with intact membranes, PIH, postdated patients with intrauterine growth retardation.

Exclusion Criteria

Antenatal patients suffering from heart diseases,oligohydramnios, premature rupture of membranes, twins and multigravidas. Study was conducted to observe perinatal morbidity and mortality. Detailed history and physical examination of all the patients was done to rule out risk factors.All the routine and necessary investigations like haemogram, blood grouping and Rh typing, TFT, VDRL, viral markers, Ultrasound doppler study , urine routine and microscopy were done. Oligohydramnios was confirmed by measuring amniotic fluid index (AFI) sonologically. Routine management in form of adequate rest, left lateral position, oral and intravenous hydration was done. Management of underlying etiological factor was done wherever possible. Fetal surveillance was done by USG, and Doppler. Decision of delivery by vaginal route or elective / emergency LSCS was done as required. Some patients were already in labour and other were given a trial of spontaneous labour. Cases were studied for maternal and perinatal outcome and data collected. Chi square test was used for analyzing the data. Patients with severe Oligohydramnios were admitted irrespective of gestational age. Borderline oligohydramnios patients having no other risk factors like pregnancy induced hypertension, postdate and with normal fetal surveillance test in form of weekly Doppler, modified biophysical profile and weekly ultrasound were managed on out patient basis after explaining self fetal movement count. Patients were advised to consult the obstetrician immediately whenever the fetal kick count is low.

Results

Commonage group of oligohydramnios was found to be 20 to 25 years Most common cause of oligohydramnios is idiopathic. Other common causes are PIH(20%)post dates (12%)and congenital anamolies (2%). 47% of patients had to undergo caserean section ,most common indication being fetal., distress (17%) .Neonatal admissions were found to be13% and 6% of babies developed meconium aspiration syndrome .Perinatal mortality rate as found to be around6%in our study.Most of the patients were found to be in the age group 20 to 25 years and the mean maternal age was found to be 23 years. Most of the cases came from rural areas incidence being 64 out of100 cases..A high Incidence of oligohydramnios was found in primipara group (57%). Most common cause of Oligohydramnios in our study was found to be idiopathic incidence being 66 out of 100 cases. Next common cause was PIH followed by post dates. Few patients were found to have multiple risk factors....

Age wise distribution of oligohydramnios

Table 1:Age versus number of patients

Age	No. of patients
<20	8
20-25	156
26-30	24
>30	4
Total	192

Area wise distribution of oligohydramnios cases

Table 2: Area wise distribution

Rural	**122**
Urban	70
Total	192

Age and Maternal out Come

Table 3: Age and maternal outcome

age	Normal	ASSISTED	Lscs	Total
<20	0	2	4	6
20-25	60	28	62	150
26-30	8	14	18	32
>30	0	0	4	4
total				192

Parity and Maternal Out Come

Table 4: Parity and maternal outcome

Parity	normal	Assisted	Lscs
Primi	34	18	64
Mutipara	40	8	28
Total	74	26	92

Risk Factor and Maternal Out Come

Table 5: Risk factor and maternal outcome

Risk factor	normal	Assisted	lscs	total
PIH	4	10	20	34
POST DATE	12	0	14	26
Idiopathic	58	12	60	130
Congenital anomalies	0	2	0	2

Nature of amniotic fluid

Table 6: Nature, number and percentage of amniotic fluids

Liquor	Number	Percentage
Clear	148	76
Meconium stained	44	24

Oligohydramnios was found to be more common in gestational age > 34 weeks with incidence being 70 out of 100 cases and least common in <28 weeks, incidence being 3% inour study..

Gestational age with number of patients

Table 7: Gestational age and number of patients

Gestational age	No. of patients
>34 weeks	144
28-34 weeks	42
>34 weeks	6

Induced versus spontaneous labor

Table 8:Comparison of labour

labour	number	percentage
spontaneous	136	68
induced	60	32

Meconium stained liquor was found in 24% of patients. Rate of caesarean section and normal vaginal delivery was found to be same in age group of 20 to 25 years.i.e 30% and 31%respectively.Around 32% patients had to be induced based on Bishop's score. A increase in the incidence of caesarean was observed in primipara than in multipara group i.e 32% and 15% respectively. Rate of caesarean section is also higher in primi group than normal vaginal delivery i.e 64 %and 34% respectively. Incidence of caesarean section is also high when there are associated risk factors like preeclampsia and postdates. Incidence of caesarean section is also high when AFI<5 cm i.e 32 out of 47 caesarean section S .Most common indications for caesarean section was found to be fetal., distress.

Doppler and maternal outcome

Table 9:Doppler and maternal outcome

Doppler	Normal	abnormal	Lscs
normal	72	14	54
Abnormal	0	16	36

Indications of caesarean section

Table 10:Indications and number comparison

INDICATION	NUMBER
Fetal distress	38
Meconium stained liquor	12
Breech	7
CPD	19
Severe oligohydramnios	24

38 patients were taken up for lower segment caesarean section directly due to severe oligohydramnios with abormal Doppler and NST. 7 cases had breech presentation and taken up for elective LSCS .Two cases of severe preeclampsia with IUGR terminated and had still birth . There are 6 still births in our study.. 11 patients had spontaneous preterm labour and in 4 patients vacuum had to be applied.In160 cases,APGAR score was normal and 28 cases had NICU admission

Outcome of Baby

Table 11: Outcome of baby

Growth retardation	144(AGA) 48(SGA)
Apgar score <7 At 1&5min	32
NICU ADMISSIONS	28

Discussion

The mean maternal age in our study was found to be 23 years which is comparable to studies conducted by Krishna jagatia et al., 2013) and where it was reported to be 23.9 years[5,6]. In our study the incidence of oligohydramnios in primigravidas was found to be as high as (64%) when compared to multigravidas similar to the incidence found in study conducted by Donald d et al.,2011 where it was reported to be 60%. In our study the incidence of oligohydramnias was reported to be 4%, as compared to 0.67% and 1.5% in a similar study respectively [7,8].Meconium stained liquor was found in 24% of patients which was not found to be stastically significant. The mean gestational age was found to be around 35.3 weeks in our study as compared to 38.1 ± 3.3 weeks and 37.5± 2 weeks in similar studies respectively. Hence it may be concluded that oligohydramnias is encountered more commonly in third trimester. In our study, rate of vaginal deliveries was reported to be 62% &caesarean section 38% which is comparable to the study done and reporting 84% rate of vaginal deliveries& 16% cesearian section and Sir Gangaram hospital study (Umber, 2009) which reported a rate of 68%vaginaldeliveriesand 32% by caeserian section[9],In our study 12.5%,patients had to be directly taken up for caesarean section because of severe oligohydraminias,a rate which is comparable to charujandial study(Jandial et al., 2007)[10].The operative morbidity was 27% inprimiparity group as against 29% reported in study conducted by Krishna jagatia et al..Most common indication for caeserian section was fet al distress in our study, incidence being 19% which is comparable to Krishna jagatia study where it was reported to be 21%. PIH was present in 17% of cases in our study which is comparable to study done by Chowan et al., where it was found to be12%[11]. In our study 14%of cases were postdate. In Bangal et al., ?it was 16% . In our study 43%of patients had birthwight< 2.5kg. Mean birth weight was 2.33kg which is similar to the study conducted by William ott et al.,2005 with reported meanbirth weight being 2.4 kg[12]..The incidence of low birth weight is high especially when there are associated high risk factors likesevere preeclampsia ,congenital anomalies, severe oligohydramnias AFI< 2 cm or anhydramnias. In our study 85% babies were found to be AGA. and15% babies SGA .In study conducted by Julie Johnson et al., 2007) 92.6%babies were found to beAGA &7% were SGA[13].In (Rajusriya et al., 2007) the rate was 83.4% of AGA and 16.6% of SGA babies[14]. In our study 15% of babies had APGAR score <7as compared to 38%and 15% in study of Raj suriya et al. and, Jun zhang et al., 2004) respectively. In our study it was 15% of the babies who required NICU admission. In study conducted by Julie Johnson et al., 2007,the reported rate was12% .Neonatal mortality was found to be 5.9% in our study ,as compared to 7.2% and 9.9%in studies conducted by Wolff et al. and. Apel arid et al.,2009 respectively[15,16]

Conclusion

Oligohydramnios is a frequent occurring condition in pregnancy. All cases of oligohydramnios require intensive antepartum and intrapartum care with evolution of gestational age and cause .Due to oligohydramnios,risk of intrapartum complications, perinatal morbidity and mortality increases.

.Early diagnosis of oligohydramnias, evaluation of the cause and severity of oligohydramnias and assessment of gestation age are essential for management of oligohydramnias .Early onset oligohydramnios is associated with higher perinatal morbidity and mortality as compared to late onset oligohydramnias. Better maternal and fet al out come can be expected provided intensive fetal surveillance is done in antepartum period and during labour.Timely intervention is also required to balance between pre maturity and hostile intrauterine environment to reduce the risk of perinatal morbidity and mortality.

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