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Original Research Article

Fetal and maternal outcome in oligohydramnios pregnancy (37-40 weeks)

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ABSTRACT

Background: This study is conducted to see the effects of oligohydramnios on both mother and fetus.
Methods: 237 antenatal patients delivered at Department of DNB-OBG District hospital Bellari during January 2018 to December 2018 with gestational age between 37-40wks with AFI<5cms with intact membranes were studied and analyzed retrospectively for perinatal and maternal outcome.
Results: Out of 237 cases with oligohydramnios with AFI <5cm studied, about 229 cases underwent LSCS (96.6%). most are primigravida about 164(69.19%), belong to age group of <25 about 181(76%). Average gestational age noted to be 38+4 weeks about 55.9% (132), NICU admission seen in 47(19.8%) of total cases. Most of the babies delivered are >2.5 kg birth weight about 144 (60.75%) of cases. New born with APGAR <7 @ 1 min seen in 36 cases (15.15%). Meconeum stained liquor seen in about 70 cases (29.5%).
Conclusions: Oligohydramnios has significant correlation with increased Caesarean section for fetal distress. Oligohydramnios is associated with high rate of pregnancy complication and increased rate of NICU admission. Oligohydramnios is a frequent occurrence demanding careful evaluation, intensive fetal surveillance and proper antepartum and intrapartum care.

Keywords: AFI, Fetal Distress, Oligohydramnios LSCS

INTRODUCTION

Amniotic fluid provides a protective environment for fetal growth, acting like a cushion for the fetus and protecting against mechanical and biological injuries. And it provides nutrients essential for the growth, also provides space for adequate movements and proper development.[1] Amniotic fluid is important for the normal development respiratory, genitourinary, gastrointestinal, and musculoskeletal system.

With gestational age Amniotic fluid volume changes, it is 50 ml at 12 weeks increases to around 400 ml at mid-pregnancy and maximum of 1000 ml at term, and decreases after.

Liquor volume below the 5th percentile for that gestational age is considered as oligohydramnios. Early onset of oligohydramnios usually are reported to be associated with congenital fetal anomalies, such as dysplastic kidney, bladder outlet obstruction, bilateral renal agenesis, pulmonary hypoplasia, bilateral multicystic kidney etc, with poor fetal outcomes as Intrauterine growth restriction, fascial distortion and multiple structural deformities.[2,3] Late onset oligohydramnios are mostly related to umbilical cord compression and thick meconium liquor, and these women are more likely to be affected by placental abnormality or maternal complications such as preeclampsia or vascular diseases.[1]

The objective of the study was to study various maternal and fetal outcome in pregnancy with oligohydramnias.

METHODS

The present study was Retrospective observational study conducted in the Department of Obstetrics and Gynecology, District Hospital Bellary. During Period of January 2018 to December 2018

In this study, All pregnant women with term pregnancy admitted to labour room who fulfill's the inclusion criteria and willing to participate will be selected for the study .Feto maternal outcome will be studied in different volumes of Amniotic Fluid.

Inclusion criteria

Women with singleton pregnancy, non-anomalous fetus, intact membranes Gestational age 37-40wks ,AFI <5cm

Exclusion criteria

Women with premature rupture of membranes, Known fetal and chromosomal anomaly, Severe pre-eclampsia, post-term pregnancy.

On admission a detailed history was taken, clinical examination was performed and gestational age assessed.AFI was determined by trans-abdominal sonography. AFI was measured by dividing the uterus into four quadrants. NST was performed for all patients. Parameters noted were MSAF, the mode of delivery, birth weight,

Apgar score at 1 and 5minutes. The ethical committee of institute had approvedthe study. Results were analysed with special emphasis on maternal and perinatal outcome by using percentage calculator and proportion.

RESULTS

It was observed that 181(76%) women with oligohydramnios were in age group of 20-25 years.

By parity 69.19% were primigravida. 29.4%% were multigravida.

Table 1: Age and oligohydramnios.

Age group	Numbers	Percentage
20-25	181	76
26-30	51	22
>30	5	2.1

By gestational age more commonly olighydramnias seen in GA 39 week with 0 days to 39 weeks with 6 days (55.9%) 132 cases.

Table 2: Obstetric score and oligohydramnios.

Gravida	Numbers	Percentage
1	164	69.19
2	45	18.98
3	20	8.43
4	7	2.95
5	1	0.42

Table 3: Gestational age and oligohydramnios.

Gestational age	Numbers	Percentage
37+0day-37+6day	50	21.09
38+0day-38+6day	55	23.20
39+0day-39+6day	132	55.9

Table 4: Severity of oligohydramnios.

AFI	Numbers	Cases (%)
0	22	9.28
1	3	1.20
2	7	2.90
3	2	0.80
4	3	1.20
5	124	52.32
5-8	76	32.06

52.32% patients have AFI-5 and 9.28% patients have AFI-0.

Table 5: Colour of liquor at the time of rupture of membranes.

Colour of liqour	Numbers	Percentage
Meconeum	70	29.5
Clear	167	70.5

Table 6: Mode of delivery.

Mode of delivery	Numbers	Percentage
LSCS	229	96.60
FTND	8	3.30

Table 7: Birth weight.

Birth weight	Numbers	Percentage
<2.5 kg	93	39.24
>2.5 kg	144	60.7
NICU admission	47	19.80

Table 8: APGAR score.

APGAR	Numbers	Percentage
<7@ 1 Min	36	15.15
<7@5 Min	29	12.20

DISCUSSION

Out of 237 cases with oligohydramnios with AFI <5 cm studied, about 229 cases underwent LSCS (96.6%). most are primigravida about 164 (69.19%), belong to age group of <25 about 181(76%). Average gestational age noted to be 38+4 weeks about 55.9% (132), NICU admission seen in 47 (19.8%) of total cases. Most of the babies delivered are >2.5 kg birth weight about 144 (60.75%) of cases. Newborn with APGAR <7 @ 1 min seen in 36 cases (15.15%). Meconeum stained liquor seen in about 70 cases (29.5%).

Majeed et al the mean age of the women with oligohydramnios was 26.10 ± 5.20 years ranged between 16 and 40. The mean age of the gestational age was 38.54 ±1.13 weeks ranging from 37 to 40.[4] The previous history of a dead newborn was so low (mean: 0.02±0.14). Half of the patients delivered their pregnancies by caesarean section (C/S) (50.5%), and most of them had a good Apgar score value (98.8%).The study showed that women who had a past medical history or delivered by C/S, their newborns were more likely to admit to neonatal intensive care unit (NICU), 36.8% versus 12.1% (p=0.017) and 78.9% versus 21.1% (p=0.010), respectively.

Figueroa et al of 12,940 women enrolled in the clusters in Guatemala, Pakistan, Zambia and the DRC in the First Look Studywho had a third trimester ultrasound examination, 87 women were diagnosed with oligohydramnios, equivalent to0.7% of those studied.[5] Prevalence of detected oligohydramnios varied among study sites; from the lowest of 0.2% in Zambia and the DRC to the highest of 1.5% in Pakistan. Women diagnosed with oligohydramnios had higher rates of haemorrhage, fetal malposition, and caesarean delivery than women without oligohydramnios. Unfavourable fetal and neonatal outcomes associated with oligohydramnios including stillbirths (OR 5.16, 95%CI 2.07, 12.85), neonatal deaths <28 days (OR 3.18, 95% CI 1.18, 8.57), low birth weight (OR 2.10, 95% CI 1.44, 3.07) and preterm births (OR 2.73, 95%CI 1.76, 4.23). The mean birth weight was 162 g less (95% CI -288.6, −35.9) with oligohydramnios.

Srilakshmi et al out of the 200 women, included in the present study, in study group AFI <5 cm was present in 51% of patients and AFI 5-8 cm in 49% of patients.[6] Doppler abnormalities found in study group (n=33). 32% of the patients in study group had non-reactive NST while in control group 8%. Caesarean section was performed in 70% of cases in study group as compared to 9% in control group. Fetal distress was the most common indication for LSCS. There were no perinatal deaths in this study.

Jagatia et al mean maternal age-23.66 years. Incidence of oligohydramnios was more in primi-para (52%) in our study.[7] And operative morbidity was also more in primipara. Most common cause of Oligohydramnios is idiopathic (52%). Second commonest cause is PIH (25%). Operative morbidity is highest in PIH (60%). Operative morbidity was significantly higher in NST (non-stress test) non-reactive (3.12±75=78.12%) group than NST reactive (26.47%) group. Most common reason to perform caesarean was fetal distress which was either due to cord compression or IUGR. 7% patients were found with feto placental insufficiency on Doppler study. Oligohydramnios was related to higher rate of growth retardation and NICU (neonatal intensive care unit) admission.

Radhamani et al, a total of 130 cases of isolated oligohydramnios were assessed. 55.4% had vaginal delivery.[8] 13.8% underwent elective LSCS and 30.8% had emergency LSCS. 18.5% had meconium stained liquor, 4.6% babies had APGAR of <7 at 5 minutes. 17.7% had birth weight of <2.5 kg and 6.9% of babies required NICU admission.

Ahmar et al mean maternal age-26.1 years. Incidence of oligohydramnios was more in primipara (64.4%) in this study.[9] And operative morbidity was also more in primipara (51.7%). Most common cause of Oligohydramnios was idiopathic (44.44%). Operative morbidity was significantly higher in Non-reassuring FHR (80%) than reassuring FHR (32%).[7] patients (7.78%) were found with feto-placental insufficiency on Doppler study.

Chaudhari et al, the Caesarean section rate for fetal distress was 41% in patients with Oligohydramnios.[10] Meconium staining of amniotic fluid was found in 30.7% patients. APGAR score at 5 minutes <7 was found in 6 patients (3.8%).

Ghosh et al 65.5% participants were belonged to 20 to 25 age group and 35.5% participants were Primigravida.[11] Mean age was 23.9±3.3 years and mean gestation age was 36.9 week. Almost 72.2% were in 34 to 37 weeks of gestational age. Study found FMC<10 in 56.4% of participants. Forty percent participants have AFI 4 and 27.3% have AFI 5. 47.3% delivery was done by vaginal route. 5.5% baby was still birth and prematurity were the most common cause of still birth. Around 71% babies were low birth weight and congenital anomalies were present in 7.3% babies. APGAR score measured <7 at 1 minute was in 65.4% and <7 at 5 minutes was in 43.6% babies.

CONCLUSION

Amniotic fluid acts as a predictor of fetal tolerance in labour and its decrease in amount is associated with increased risk of abnormal NST and meconium stained fluid. Due to intrapartum complication and high rate of perinatal morbidity and mortality, rates of caesarean section are rising, but decision between vaginal delivery and caesarean section should be well balanced so that

unnecessary maternal morbidity can be prevented and timely intervention can reduce perinatal morbidity and mortality.

Oligohydramnios is a frequent occurrence demanding careful evaluation, intensive fetal surveillance and proper antepartum and intrapartum care.

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