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Results for both the mother and the foetus in an oligohydramnios pregnancy

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ABSTRACT

Background: The purpose of this research is to determine how oligohydramnios affects both the mother and the foetus.

Methods: A retrospective analysis of perinatal and maternal outcomes was conducted on 237 prenatal patients who were born at the Department of DNB-OBG District hospital Bellari between January 2018 and December 2018, with gestational ages ranging from 37 to 40 weeks, AFI < 5 cm, and intact membranes.

Results: Approximately 229 instances (96.6%) of the 237 cases of oligohydramnios with AFI < 5 cm that were examined had LSCS. About 164 people (69.19%) are primigravida, while 181 people (76%) are under 25. About 55.9% (132) of the cases had an average gestational age of 38+4 weeks, and 47 (19.8%) of them were admitted to the NICU. About 144 (60.75%) of the infants born weigh more than 2.5 kg at delivery. 36 newborns (15.15%) had APGAR < 7 at 1 minute. About 70 instances (29.5%) had spirits tainted with meconium.

Conclusions: Increased Caesarean sections for foetal distress are significantly correlated with oligohydramnios. High rates of pregnancy complications and NICU admissions are linked to oligohydramnios. Oligohydramnios is a common condition that requires thorough assessment, close foetal monitoring, and appropriate prenatal and postpartum treatment.

Keywords: oligohydramnios LSCS, AFI, foetal distress

INTRODUCTION

Amniotic fluid acts as a cushion for the developing foetus, shielding it from biological and mechanical harm. Additionally, it offers nutrients that are necessary for growth as well as room for appropriate mobility and development.¹ The correct development of the respiratory, genitourinary, gastrointestinal, and musculoskeletal systems depends on amniotic fluid.

Amniotic fluid volume varies with gestational age; it starts at 50 ml at 12 weeks, rises to around 400 ml at mid-pregnancy, reaches a maximum of 1000 ml at term, and then starts to decline.

Oligohydramnios is defined as a liquor volume that is less than the fifth percentile at that gestational age. Early onset of oligohydramnios is typically linked to poor foetal outcomes such as intrauterine growth restriction, fascial distortion, and multiple structural deformities, as well as congenital foetal anomalies such as dysplastic kidney, bladder outlet obstruction, bilateral renal agenesis, pulmonary hypoplasia, bilateral multicystic kidney, etc.^{2,3} Women with late-onset oligohydramnios are more likely to have placental abnormalities or maternal problems including preeclampsia or vascular disorders. These conditions are mostly associated with thick meconium fluid and umbilical cord compression.¹

Examining different maternal and foetal outcomes in pregnancies with oligohydramnios was the study's goal.

METHODS

The Department of Obstetrics and Gynaecology at District Hospital Bellary was the site of the current retrospective observational investigation. Between January and December of 2018 .All pregnant women with term pregnancies who are admitted to the labour room, meet the inclusion criteria, and are willing to participate will be chosen for this research. The foeto-maternal result will be examined in various amniotic fluid quantities.

Inclusion criteria

Women with intact membranes, a single pregnancy, and a non-anomalous foetus AFI < 5 cm, gestational age 37–40

weeks

Exclusion criteria

Women with severe pre-eclampsia, post-term pregnancy, known foetal and chromosomal abnormalities, and preterm membrane rupture. A thorough history, a clinical examination, and an assessment of gestational age were completed upon admission. Trans-abdominal sonography was used to determine AFI. The uterus was divided into four quadrants in order to calculate AFI. Every patient underwent NST. MSAF, the delivery method, birth weight, and other parameters were documented.

Apgar scores at one and five minutes. The research was authorised by the institute's ethics committee. Using a percentage calculator and proportion, the results were examined with a focus on maternal and perinatal outcomes.

RESULTS

181 (76%) of the women with oligohydramnios were found to be between the ages of 20 and 25.

69.19% of women were primigravida by parity. The percentage of multigravida was 29.4%.

Table 1: Age and oligohydramnios.

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

Oligohydramnios are most often seen in GA 39 weeks with 0 days to 39 weeks with 6 days (55.9%) 132 instances.

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

AFI-5 is present in 52.32% of patients, whereas AFI-0 is present in 9.28%.

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

Colour of liquor	Numbers	Percentage
Meconium	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

Approximately 229 instances (96.6%) of the 237 cases of oligohydramnios with AFI <5 cm that were examined had LSCS. About 164 (69.19%) are primigravida, while 181 (76%) are in the under-25 age range. About 55.9% (132) of the patients had an average gestational age of 38+4 weeks, and 47 (19.8%) of them were admitted to the NICU. About 144 (60.75%) of the infants born weigh more than 2.5 kg at delivery. APGAR <7 @ 1 min was seen in 36 instances (15.15%) of newborns. About 70 instances (29.5%) had spirits tainted with meconium.

According to Majeed et al., women with oligohydramnios varied in age from 16 to 40, with a mean age of 26.10 ± 5.20 years. The gestational age ranged from 37 to 40.4 weeks, with a mean of 38.54 ± 1.13 weeks. There had been very few neonatal deaths in the past (mean: 0.02 ± 0.14). The majority of the patients had excellent Apgar scores (98.8%), and half of them gave birth by caesarean section (C/S) (50.5%). According to the research, the likelihood of a baby being admitted to the neonatal intensive care unit (NICU) was higher for women who had a prior medical history or who gave birth via caesarean section (C/S) (36.8% against 12.1% ($p=0.017$) and 78.9% compared 21.1% ($p=0.010$), respectively.

Figuroa et al. found that 87 women, or 0.7% of the 12,940 women who were recruited in the clusters in Guatemala, Pakistan, Zambia, and the DRC and had a third trimester ultrasound scan, had oligohydramnios. The DRC and Zambia had the lowest prevalence of identified oligohydramnios (0.2%), whereas Pakistan had the greatest prevalence (1.5%). Compared to women without oligohydramnios, those with the condition had greater rates of caesarean birth, foetal malposition, and bleeding. Oligohydramnios is linked to unfavourable foetal and neonatal outcomes, such as low birth weight (OR 2.10, 95% CI 1.44, 3.07), stillbirths (OR 5.16, 95%CI 2.07, 12.85), neonatal deaths <28 days (OR 3.18, 95% CI 1.18, 8.57), and preterm births (OR 2.73, 95%CI 1.76, 4.23). With oligohydramnios, the mean birth weight was 162 g lower (95% CI -288.6, -35.9).

Srilakshmi et al. found that of the 200 women in the research group, 51% had AFI <5 cm and 49% had AFI 5–8 cm. The research group ($n=33$) had six Doppler abnormalities. In the trial group, 32% of patients showed non-reactive NST, compared to 8% in the control group. In the study group, 70% of instances required a Caesarean section, compared to 9% in the control group. The most frequent reason for LSCS was foetal discomfort. This research did not include any perinatal fatalities.

The average mother age, according to Jagatia et al., is 23.66 years. In our research, the incidence of oligohydramnios was higher in primi-para (52%).⁷ Additionally, primipara had higher operational morbidity. Idiopathic causes account for 52% of cases of oligohydramnios. PIH is the second most frequent cause (25%). PIH

has the greatest rate of operative morbidity (60%). The NST (non-stress test) non-reactive ($3.12 \pm 75 = 78.12\%$) group had substantially greater operative morbidity than the NST reactive (26.47%) group. Foetal distress, either from cord compression or IUGR, was the most frequent cause of caesarean sections. A Doppler investigation revealed foeto-placental insufficiency in 7% of individuals. Higher rates of development retardation and NICU (neonatal intensive care unit) admissions were linked to oligohydramnios.

130 instances of isolated oligohydramnios were evaluated by Radhamani et al. 55.4% of births were vaginal. 30.8% had emergency LSCS and 8 13.8% got elective LSCS. 4.6% of infants had an APGAR of less than seven after five minutes, and 18.5% had meconium-stained alcohol. 6.9% of infants needed to be admitted to the NICU, while 17.7% of neonates weighed less than 2.5 kg at delivery.

The average mother age, according to Ahmar et al., is 26.1 years. In this research, primipara had a higher incidence of oligohydramnios (64.4%).⁹ Additionally, primipara had a higher rate of surgical morbidity (51.7%). Idiopathic causes accounted for 44.44% of cases of oligohydramnios. Compared to reassuring FHR (32%), non-reassuring FHR had considerably greater operative morbidity (80%). A Doppler investigation revealed foeto-placental insufficiency in 7 individuals (7.78%).

According to Chaudhari et al., 41% of patients with oligohydramnios had a Caesarean section due to foetal distress. 30.7% of patients had amniotic fluid stained with meconium. Six patients (3.8%) had an APGAR score of less than seven at five minutes.

According to Ghosh et al., 35.5% of participants were primigravida, while 65.5% of participants were between the ages of 20 and 25.¹¹ The mean gestational age was 36.9 weeks, and the mean age was 23.9 ± 3.3 years. Nearly 72.2% had gestational ages between 34 and 37 weeks. 56.4% of subjects had $FMC < 10$, according to the study. AFI 4 is present in 40% of individuals, whereas AFI 5 is present in 27.3%. Vaginal delivery accounted for 47.3% of births. Prematurity was the most frequent cause of stillbirth, accounting for 5.5% of all births. 7.3% of newborns had congenital defects, and around 71% of neonates were underweight at delivery. 65.4% of newborns had an APGAR score of less than seven at one minute, and 43.6% had a score of less than seven at five minutes.

CONCLUSION

A reduction in amniotic fluid is linked to a higher likelihood of abnormal NST and meconium-stained fluid, and it serves as a predictor of foetal tolerance during birth. Caesarean sections are becoming more common due to intrapartum complications and high rates of perinatal morbidity and mortality. However, the choice between vaginal delivery and caesarean section should be carefully considered in order to prevent unnecessary maternal morbidity and to lower perinatal morbidity and mortality through prompt intervention.

Oligohydramnios is a common condition that requires thorough assessment, close foetal monitoring, and appropriate prenatal and postpartum treatment. Funding: No funding sources Conflict of interest: None declared Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- Dashe JS, Bloom SL, Spong CY, Hoffman BL. Amniotic fluid. Williams Obstetrics. 24th ed New York: McGraw Hill Professional; 2018.
- Visvalingam G, Purandare N, Cooley S, Roopnarine singh R, Geary M. Perinatal outcome after ultrasound diagnosis of anhydramnios at term. J Obstet Gynaecol. 2012;32:50-3.
- Ghimire S, Ghimire A, Chapagain S, Paudel S. Pregnancy outcome in cases of oligohydramnios after 28 weeks of gestation. Int J Adv Med Health Res. 2016;3:68.
- Majeed HA, Shamdeen MY. Fetal and Maternal Outcomes in Oligohydramnios Pregnancy (37–40 Weeks of Gestation) at Labor available at <http://www.medjbabylon.org>.
- Figuerola L, McClure EM, Swanson J, Nathan R, Garces AL, Moore JL, et al. Oligohydramnios: a prospective study of fetal, neonatal and maternal outcomes in low-middle income countries. Reproductive. 2020;17:19.
- Sreelakshmi U, Bindu T, Subhashini T. Impact of oligohydramnios on maternal and perinatal outcome: a comparative study Int J Reprod Contracept Obstet Gynecol. 2018;7(8):3205-10.
- Jagatia K, Singh N, Patel S. Maternal and fetal outcome in oligohydramnios: a study of 100 cases. International J Medic Science Public Health. 2013;2: 3.
- Babitha RS. A clinical study of foeto-maternal outcome in pregnancies with oligohydramnios Int J ReprodContraceptObstet Gynecol. 2017;6(3):868-71.
- Ahmar R, Parween S, Kumari S, Kumar M. Neonatal and maternal outcome in oligohydramnios: a prospective study Int J Contemp Pediatr. 2018;5(4):1409-13.

Chaudhari KR, Chaudhari KR, Desai OM. Perinatal outcome associated with oligohydramnios in third trimester Int J Reprod Contracept Obstet Gynecol. 2017;6(1):72-5.

Ghosh R, Oza H, Padhiyar B. Maternal and fetal outcome in oligohydramnios: study from a tertiary care hospital,