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A Statistical Analysis-AFI with Perinatal Outcome

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Abstract

Objectives: *We aimed to evaluate the predictive value of amniotic fluid index (<5) for unfavorable perinatal outcome in phrases of caesarean section for fetal distress, low birth weight, meconium staining, Apgar scores, IUGR and NICU admissions.*

Methods: *This become an observational correlational scientific study of 120 antenatal patients referred to radiology department with clinical diagnosis of 3rd trimester severe oligohydramnios. The women's history, scientific examination recorded and AFI measured and the perinatal final results observed up.*

Results: *The caesarean sections for fetal misery become sixty two. 62% (57 patients), low birth weight babies 25% (30 patients), meconium staining 10% (12 patients), IUGR in 47% (56 sufferers) and NICU admissions 40. 8% (49 sufferers).*

Conclusions: *There changed into extended occurrence of unfavourable effects in severe oligohydramnios. There changed into higher incidence of IUGR, low delivery weight, ceaserean segment for fetal distress and NICU admissions.*

Keywords: *Severe oligohydramnios, caesarean secton, Apgar scores, Birth weight, preterm, NICU.*

Introduction

Modern obstetrics is concerned with the health of both the mother and the unborn child. Recognition of a fetus at threat for demise or harm in utero, quantifying the hazard, balancing the fetal danger in opposition to the hazard of neonatal headaches from immaturity and determining the most appropriate time and mode of intervention are the cornerstones of modern perinatal medicine[(1)]. Amniotic fluid affords a defensive milieu for the growing fetus, cushioning it towards mechanical and organic injury[(2,3)]. Quantification of amniotic fluid and the fetal biophysical profile is an crucial aspect in the ultrasound assessment of fetus in the third trimester[(4)]. An correct and reproducible technique of determining abnormality in amniotic fluid volume (AFV) is sonographic evaluation of amniotic fluid index (AFI). Ultrasound being a non invasive test is right for utility on a massive scale and may be used regularly for repeat AFV determination in case of suspected abnormalities[(3)]. In the existing look at, amniotic fluid quantification was performed by means of the four quadrant method as described through phalen et al[(5)] to determine AFI.

Materials and Methods

The present observe turned into a observational correlational study accomplished at RMMCH, Chidambaram. The examine individuals covered one hundred twenty booked antenatal patients from the period October 2015 to October 2017. The inclusion and exclusion criteria as follows:

Inclusion criteria

1. All pregnant women no matter gravida beyond 24 weeks of gestation with severe oligohydramnios (AFI <5cm).
2. Singleton pregnancy with Intact membranes.

Exclusion Criteria

1. Pregnancies complicated by fetal anomalies, both chromosomal or structural.
2. Multiple pregnancy.
3. Patients in labour or with rupture of membranes.
4. Patients with hypertension, diabetes, Rh incompatibility, and so forth.

Method

Antental patients satisfying the standards and consenting to the system had been decided to take up for the study after getting a proper consent. The routine antenatal tests done and any fetus with congenital anomalies were excluded from the observe. The amniotic fluid index is calculated by the use of the 4 quadrant AFI approach. Severe Oligohydramnios was defined as AFI <5cm and all patients observed up till delivert with Fetal kick count, BPP and handled with L-Arginine, and oral rehydration. Base line investigations like haemoglobin percentage, urine examination, blood typing, NST and BPP have been completed. Then patients had been followed up to assess the mode of delivery, indication of LSCS,APGAR scorings, meconium staining, preterm, IUGR, birth weight and NICU admissions.

Results

Table 1: Mode of delivery

Mode of Delivery	No. of Patients	%
NVD	27	22.6
LSCS	91	75.8
VA	1	0.8
VBAC	1	0,8
Total	120	100

Table 1 suggests the mode of delivery inside the study institution. 22.6% of the study population had normal vaginal delivery. 75. 8% underwent LSCS. One patient had a vaccum assisted delivery and one patient had vaginal delivery after LSCS (VBAC).

Table 2: Indications for LSCS.

Ind LSCS	No.of Patients (n = 91)	%
FD	57	62.6
PREV LSCS	17	18.7
BREECH	11	12.1
CPD	3	3.3
NPL	1	1.1
ABRUPTIO	1	1.1
Anhydromnious	1	1.1
TOTAL	91	100

Out of a hundred and twenty patients, 91 patients underwent LSCS. Table 10 indicates the indications for LSCS. Of the ninety one patients, 57 patients (62.6%) had fetal distress, 17 patients (18.7%) had previous LSCS, 11 patients (12.1%) had breech presentation, three sufferers (3.3%) had CPD and 1 patient (1.1%) had non progression of labour, abruption, anhydromnios each.

Apgar Results

Forty patients (33 %) had 1 min APGAR rating ≤7 .Eighty patients (67 %) had normal 1 min APGAR rating. 117 patients had normal 5 min apgar rating.

Table 3: Nature of amniotic fluid at delivery

Liquor	No. of Patients	%
No	1	0.8
CL	107	89.2
MS	12	10.
Total	120	100.0

Incidence of meconium stained liquor in 10% even as 89.2% had clear liquor at the time of delivery. One patient had no liquor at the time of delivery.

Birth weight in our look at:

The mean birth weight is 2.52 kg. Low delivery weight as described through fetal weight <10th percentile for gestational age was seen in 25 %. Birth weight >10th percentile for gestational age was seen in 75 % of patients.

Table 4: Incidence of IUGR, NICU admission, Postnatal death.

	No. of Patients	%
IUGR	56	46.7
NICU	49	40.8
PN Death	4	3.3

Table five - shows an occurrence of 46.7 % of IUGR among the examine population. 40.8% of the babies have been admitted to the NICU for observation, breathing distress, preterm care and meconium aspiration. 4 sufferers had postnatal death.

Discussion

In the prevailing study, meconium-stained liquor was present 10%, even as Yousseff et al[6] diagnosed it in forty percentage of women. This shows that there is a correlation in incidence of meconium staining and poor placental reserve in study performed.

The caesarean section for fetal distress (62.6%) turned into additionally higher in patients with oligohydramnios. A study done by Baron et al[7] showed that meconium stained amniotic fluid happened notably less frequently in the oligohydramnios group compared the normal AFI index population. A study done by Voxman et al[8] concluded that there was no difference among the study population with regard to meconium stained liquor. Chauhan et al[9] concluded that AFI 5cm is associated with elevated risk of ceasarean section for fetal distress and decreased apgar rating at 5 mins.

Sarno et al[10] stated a substantially higher occurence of fetal distress and low apgar rating in ladies with AFI<5cm. This is pronounced to be due to head and cord compression. Golan et al[11] suggested a low apgar score at 5 minutes in 4.6% babies, in contrast to 2.5% in our observe.

The occurrence of NICU admissions changed into found to be 18.5% with the aid of Garmel et al[13] study whereas in our observe had 40. 8% (49 sufferers).

Severe Oligohydramnios has been recognised as a clinical hallmark of adverse perinatal outcome. We concluded postnatal deaths in 3.3% (4 infants), while Casey et al[12] mentioned 6.4% perinatal deaths. Rutherford et al[16] found an inverse relationship between amniotic fluid index and ceasarean segment for fetal distress.

Locatelli et al[14] mentioned that during uncomplicated term pregnancies with oligohydramnios, the presence of an AFI <five independently increased the risk for fetal growth restriction. Morris et al[15] observed that 60% of babies had been diagnosed as LBW within the group with AFI<5, indicating that oligohydramnios had an association with fetal growth restriction. Rutherford et al[16] confirmed that once the AFI become <5 36%, pregnancies led to babies with intrauterine growth restricton (IUGR).In our examine, IUGR was found in 46.7% (56 babies).

Conclusions

To conclude, oligohydramnios is associated with a high fee of pregnancy headaches and multiplied perinatal morbidity and mortality. We trust the AFI assessed antepartum or intrapartum might help to perceive ladies who need multidisciplinary antepartum surveillance for pregnancy complications and as such women must be intervened at a prompt time to prevent adverse perinatal outcomes.

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