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AMINOACID INFUSION IN OLIGOHYDRAMINOS

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ABSTRACT

Abstract :Oligohydramnios is a rare condition where the liquor amnii may be reduced to a few ml. of viscid fluid. This is a late sign of foetal malnutrition. Oligohydramnios or diminished liquor is quite often associated with impaired foetal growth, foetal anomaly and malpresentation. The study was done to see whether maternal nutrition plays any role in maintaining the foetal environment, 20 patient sof oligohydramnios in third trimester were selected for the present study. Maternal nutrition was improved by parenteral amino acid infusion. A significant improvement was observed subsequently as the AF1 was seen to increase and less operative intervention was needed. A lesser perinatal mortality was as well seen. **Results:** From the study conducted it can be suggested that I/V infusion of aminoacids and Fructodex has a beneficial effect to both mother and foetus in case of idiopathic oligohydramnios in developing countries. However, larger studies with controlled trial are needed to be done. **Material and methods**: The study was done on 40 clinically and sonographically proven cases of oligohydramnios in third trimester of pregnancy, in the Department of Gynaecology and Obstetritcs in Chalmeda An and Rao Institute of medical sciences over a period of 2yrs from 2015-2017 .

INTRODUCTION

Amniotic fluid surrounds the foetus in uterus and forms a protective cushion around it. The volume normally increases to about a liter around 36 weeks but decreases thereafter till term. In oligohydramnios the volume of amniotic fluid may the normal limits and occasionally be reduced to only a few ml of viscid fluid. Oligohydramnios is said to belate sign of fetal malnutrition. Foetal well being to a great extent depends upon the appropriate volume of amniotic fluid. Oligohydramnios in early pregnancy is attended by serious consequences to the foetus. Subjected to pressure from all sides the foetus assumes a peculiar appearance and musculoskeletal deformities such as club foot, talipes and wry neck may be seen. The skin of foetus appears dry, leathery and wrinkled. Pulmonary hypoplasia is common with oligohydramnios.[1]

Diminished liquor is quite often associated with impaired foetal growth, foetal anomaly and malpresentations. This is also associated with abnormal FHR pattern and meconium staining of liquor which often requires case are an section and results in perinatal mortality and morbidity. Different medical and intervention methods have been tried to treat oligohydramnios.

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The Present study was done to see the effect of amino acid infusion on amnioticfluid index,mode of delivery and foetal outcome.

MATERIAL AND METHODS

The study was done on 40 clinically and sonographically proven cases of oligohydramnios in third trimester of pregnancy, in the Department of Gynaecology and Obstetrics in ChalmedaAnand Rao Institute of medical sciences over a period of 2yrs from 2015-2017

Inclusion Criteria

Patients with gestational age of more than 28 weeks and less than 36 weeks were taken for the study.

Exclusion Criteria

Patients with any congenital anomaly of foetus, maternal pulmonary, cardiovascular and abdominal pathology or premature rupture of membranes were excluded from the study.

Amniotic fluid volume was measured with four quadrant technique which consists of measuring the largest pool of fluid found in each of the four quadrants of uterus. The added measurements give AFI. The fluid is decreased when AFI is less than10cmsandmarkedlydecreasediflessthan5cms[2]. edobstetric,menstrual,past, personal and family history was taken. General systemic and obstetric examinations were

conducted.

Abdominal girth and fundal height was measured in cm and recorded weekly. A record of foetal movements and foetal heart was maintained. All investigations of blood i.e. complete blood picture ,blood group and typing , serology were done. Routine urine examination with culture/sensitivity as and when needed was also done. After initial USG, patients in the study group were subjected to repeat USG weekly. The patients in study group were given I/V infusion of 200 ccs of aminoacid on alternate days for the first week and repeat infusions were givenafter2-3weeks if required. Each patient received 500 ml of 10% Fructodexpri or to amino acid infusion. Oraliron, calcium and multi-vitamin the rapy was continued as before. The patient were followed till delivery.

Patientat entry were divided in to two groups: a) Moderate oligohydramnios(AF1:5.1-10cms)

b) Severe oligohy dramnios (AF1<5cms).

Table 1. Grouping of patients according to AFI

No of Patients	AFI	Percentage
30	5.1-10cms (moderate)	75%
10	5cms (severe)	25%
Total 40		100%

All the patients with severe oligohydramnios had IUGR, whereas 60% of patients with moderate oligohydramnios had IUGR (Table-II).

Table II. Relationship of AFI to IUGR

AFI	No. of Cases	Patients of iugr	Percentage %
5cms	10	10	100%
5.1-10cms	30	18	60%

10(33.00%) patientswith moderate oligohydramnios on repeat USG were seen to have improved the AF1 to normal after 2 weeks of repeat infusion. However, repeat infusion after 2 weeks was given for maintenance of normal AF1. No appreciable improvement was seen in patients with severe oligohydramnioswithin2weeksonly. Repeat infusion was given after 2 weeks and 2(40%) patients with severe oligohydramnios had improved AFI to moderate level (Table-III).

Out of 10 patients with severe oligohydramnios 4(40%) improved to moderate oligohydramnios. Out of the 6 in severe oligohydramnios group, 2(33%) underwent LSCS, 2(33%) delivered normally at 36 weeks and 4 (33%) had premature delivery

Table III. Afi After Infusion

AFI	No of Pts At Start	No of pts at 2wks	No of Pts At 4Wks
5cms	10 (25%)	10(25%)	6(15%)
5.1-10cms	30(75%)	20(50%)	20+4(60%)
>10cms	-	10(25%)	10(25%)
TOTAL	40	40(100%)	40(100%)

Out of 24 patients in moderate oligohydramnios group, 4(16.6%) had premature delivery, 14(58.33%) had normal delivery around37weeksand 6(25%)underwent LSCS for foetal distress and IUGR. Out of 10 patients, whose liquor improved to AFI >10, 8(80%) delivered normally, whereas 2(20%) underwent LSCS (Table-IV).

Table IV. AFI and Pregnancy Outcome

AFI	Preterm Delivery	Normal Delivery	LSCS
5cms	2(33.3%)	2(33.3%)	2(33.3%)
5.1-10cms	4(16.66%)	14(58.33%)	6(25.00%)
10cms	-	8(80%)	2(20%)

Patients with moderate oligohydramnios had 4(16.66%) preterm deliveries, 6(25%) LSCS for Foetal distress, meconium and malpresentations. Out of patients with severe oligohydramnios, 2(33%) had preterm delivery and 2(33%) had LSCS or foetal distress. Babies of severe oligohydramnios patients had low APGAR SCORE and 6(100%) were VLBW (Table-V). Babies of patients whose oligohydraminos improved to normal had good APGAR score instead of being LBW.

Table V. AFI & Foetal Outcome

AFI	Vlbw Baby	Lbw Baby	Normal Baby	Apagar<5
5cms	3(100%)	-	8(66.66%)	4
5.1-10cms	-	4(33.33%	4(80%)	3
10cms	-	1(20%)		0

DISCUSSION

Second important cause of IUGR and associated complications is said to be inadequate nutrition to mother .[3] So improving the maternal nutritional status during pregnancy shall improve the pregnancy outcome. Various studies have tried intravenous infusion of large amounts of glucose and aminoacids to the mothers .[4] Mothers carrying IUGR babies have been infused with 10% Fructodex and aminoacidsolutions[5] Pregnant patients with oligohydramnios also have been infused with aminoacids for improvement of foetal outcome [6]. Improved maternal nutritional status by intravenous aminoacid infusion appears to improve the AFI. This improvement may not have been achieved with diet alone because of non-compliance and socio –economic status.

CONCLUSION

From the study conducted it can be suggested that I/V infusion of aminoacids and Fructodex has a beneficial effect to both mother and foetus in case of idiopathic oligohydramnios in developingcountries.

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Conflicts of Interest

There are no conflicts of interest

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