Original Article

Use of Injection Solcoseryl for the treatment of oligohydramnios

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ABSTRACT

Objectives

To assess the efficacy of drug hemodialysate (solcoseryl) on liquor volume in intrauterine growth restricted (IUGR) babies and their outcome in view of APGAR score and their health status.

Patients and Methods

In this study, a total of 70 patients with IUGR were included and it was carried out at Shifa International Hospital and Shifa Foundation Community Health Clinic Islamabad from January 2006 to December 2008. The patients were divided in two groups with 35 in each group. In group one, no infusion of solcoseryl was given, only left lateral position and plenty of fluids were advised (Conventional therapy). In group two, 10 mg of solcoseryl was given in 500 ml of normal saline at the rate of 125 ml/hour per day after 28 weeks of gestation (Interventional therapy). If the patient was hypertensive, 500 ml of Dextrose water was used instead of normal saline. Minimum one dose and maximum 28 doses were used. Both groups were compared with level of amniotic fluid index before and after the treatment.

Results

Out of 70 patients, frequency of IUGR in group one it was 6.83±2.24, (t = -3.28, 95% CI, -2.89 -.704), (P=.002) and in group two it was 8.63±2.33, (t = -3.28, 95% CI, -2.89-.704), (P=.002).

Conclusion

Solcoseryl is the drug of choice in pregnant women with IUGR, especially after twenty eight week of gestation. (Rawal Med J 2010;35:).

Key words

Solcoseryl, oligohyramnios, IUGR.

INTRODUCTION

Intrauterine growth restriction (IUGR) is defined as a fetal weight below the 10th percentile for a given gestational age.[1] This is a term used for a fetus that is smaller than normal for that gestation during pregnancy.[2] IUGR is frequently divided into symmetrical IUGR in which the body weight and height are morphologically balanced, (type 1, fetal hypoplasia), and asymmetrical IUGR of an unbalanced body type (type 2, fetal malnutrition). The former accounts for about 8.5 to 25% of IUGR.[3] However, type 1 IUGR is caused by chromosomal anomalies, genetic diseases, viral infection, etc. It also occurs owing to excessive alcohol intake and smoking and from drugs like narcotics and reserpine. On the other hand, the causes of IUGR are frequently maternal complications such as toxemia, hypertension, diabetes, heart disease, ectopic pregnancy, placental dysfunction and abnormal pregnancy.[3] These lead to vascular degeneration and decreased blood flow in the placenta and fetal growth is effected by restriction in oxygen and nutrients support. As a result, fetal distress arises easily. The infants with fetal growth restriction are associated with an increased risk of hypertension, glucose intolerance and atheromatous vascular disease in later life.[4] Objectives of this study were to assess efficacy of drug hemodialysate (solcoseryl) on liquor volume in IUGR babies and outcome of these babies in view of APGAR score and their health status.

PATIENTS AND METHODS

The study included 70 patients whose records were reviewed. They were divided into two groups with 35 in each group. In group one, no solcoseryl was given, only left lateral position and plenty of fluids were advised (Conventional therapy). In group two, 10 mg of solcoseryl was given in 500 ml of normal saline at the rate of 125 ml/hour per day after 28 weeks of gestation (Interventional therapy). If the patient was hypertensive, 500 ml of Dextrose water was used instead of normal saline. Minimum one dose and maximum 28 doses were used. Both groups fulfilled the inclusion criteria which included age between 20 to 40 years, singleton primigravida, multigravida, Type 11 IUGR and sure of dates. Patients

with genetically small fetuses, women with mistaken dates, abnormal babies, Type 1 IUGR and mothers with smoking were excluded from the study. Solcoseryl is a chemically and biologically standardized, protein free, non pyrogenic and non antigenic dialysate from the blood of healthy sucking calves. All patients were analyzed against in utero liquor volume, APGAR score and general health of the babies.

RESULTS

IUGR was more frequent in primigravida and constituted 31.4 % of the total (Table 1). In group one, Amniotic Fluid Index showed P value non significant whereas in group two, the Index showed P value highly significant .

Table 1. Frequency of IUGR.

Gravida	**Percent**
Primigravida	31.4
Gravida 2	21.4
Gravida 3	25.7
Gravida 4	10.0
Gravida 5	08.6
Gravida 6	01.4
Gravida 10	01.4

Two babies in group one had early neonatal death (5.7 %) whereas in group two this is 2.9 %. 37.1 % babies were sick in group one whereas no baby was delivered sick in group two.

Table 2. Effect of solcoseryl on Amniotic Fluid Index (AFI).

AFI before treatment	Group 1	X ± SD 1.89	t-test 0.423	CI -.743-1.143	P-Value 0.674
	Group 2	2.05	0.423	-.743-1.143	0.674
AFI after treatment	Group 1	2.242	-3.281	-2.89-(-.704)	0.002
	Group 2	2.338	-3.281	-2.89-(-.704)	0.002

Out of 70 patients, 21.4% had pregnancy induced hypertension 2.8 % were suffering from Gestational diabetes mellitus. As the table 3 shows baby birth weight and baby APGAR score were better

solcoseryl group.

Table 3. Effect of Solcoseryl on fetal birth weight and Baby's APGAR Score.

	Group	N	Mean	Std. Deviation	
Delivery weight	1	35	1936.0657	661.70315	
	2	35	2497.5343	899.66882	
APGAR Score	1	35	5.6857	2.66537	
	2	35	7.8857	1.99664	

DISCUSSION

One of the challenging areas currently facing the obstetricians is management of IUGR. There is little doubt that these fetuses experience not only increase rates of perinatal morbidity and mortality but also higher complications in adult life. Some 30 per cent of sudden infant deaths syndrome (SIDS) cases were SGA at birth and the overall infant mortality of the infants suffering from IUGR is eight fold increase as the normal grown infant.[5] These infants are at increased risk of perinatal hypoxia and acidemia, operative deliveries and neonatal encephalopathy. Other neonatal problems include hypoglycemia, hypothermia, hypocalcaemia and polycythemia. These infants have a slightly reduced incidence of respiratory distress syndrome because of intrauterine distress resulting in increase of surfactant. It has been observed that these babies are at increased risk of early cognitive and neurological impairment and cerebral palsy.[6]

IUGR can occur at any time in pregnancy, an early onset IUGR is commonly due to chromosomal abnormalities, maternal diseases, and placental dysfunction, whereas late onset IUGR (greater than 32 weeks) is due to many other problems.[7] Perinatal detection of fetal growth disorders has evolved dramatically over the last four decades. Before antenatal ultrasound, assessment of fetal growth was clinically available, absolute birth weight was classified as either macrosomia, that is greater than four Kg or low birth weight, very low birth weight, or extremely low birth weight (less than 2500g, less than 1500g, and less than 1000g respectively).[8] Neonates are now classified as very small for gestational age (below the third percentile), small for gestational age (below the tenth percentile), appropriate for the

gestational age (10^{th}-90^{th} percentile), or large for gestational age (above the 90^{th} percentile).[5] The detection of a fetal growth disorder is further enhanced if the reference ranges for maternal height and race and fetal birth order and sex growth potential. For the prediction of adverse perinatal outcome, growth potential percentiles are superior to conventional reference ranges.[9,10]

Conclusion

The drug hemodialysate (solcoseryl) may be used confidently for the IUGR babies in mother during antenatal period. It improved APGAR score. It may help in fetal lung maturity but this needs further research.

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Received: December 29, 2009 Accepted: October 3, 2010

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