EFFECT OF DEXAMETHASONE ADMINISTRATION ON DOPPLER INDICES OF FETUS WITH FETAL GROWTH RESTRICTION

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Introduction

Fetal growth restriction (FGR) happens when the foetus does not cope with its intrauterine potency for growing and maturation as an outcome of defect in placental function.There is an increased risk of long-term health problems and perinatal morbidity and mortality in fetuses with FGR.These include adult-onset endocrine or cardiovascular disorders, as well as compromised neurological and cognitive development. Five to ten percent of pregnancies end in FGR.The great percentage in relation to the gestational age is used to define FGR in clinical practice. An assessed foetalsize that is lower the 3rd percentage is known as FGR, according to the World Health Organization (WHO). On the other hand, FGR is defined by (ACOG) as an An assessed foetalsize that is lower the tenth percentage for pregnancy, and this is often linked to deficiency of placenta.

Aim of the work

To assess the effect of maternal Dexamethasone administration on Doppler indices of fetuses suffering from FGR.

Subjects and Methods

A total of 100 individuals were recruited in this RCT. Inclusion crieteria included Pregnant women with certain last menstrual period (LMP), Regular menstruation, Single foetus, Pregnancy between 28: 34 weeks of gestation, FGR was diagnosed by one or more of the following criteria:1. Lag of two weeks or more between the current biometric measures (BPD, AC, FL) and documented crown rump length or certain last menstrual period.

A total of 100 individuals were recruited in this RCT. Inclusion crieteria 2. Estimated fetal weight (EFW) or (AC) of less than the 10th percentile for the specific gestational age. Selected cases were subjected to perform fetal Doppler to measure Umbilical Artery and Middle Cerebral Artery Doppler indices (S/D, RI, PI), Cerebro placental ratio will be calculated as the ratio between the MCA-PI and UA-PI. Patients received corticosteroids, the corticosteroids dose used is Dexamethasone 8 mg, IM / 12 hrs for 48 hrs), Follow up fetal Doppler was done 24 h after the Dexamethasone course administration, Comparison between Doppler indices before and after Dexamethasone administration was done.

Results

Table 1: Description of analytical data according to UM-RI (n=100)

	UM-RI 1st	UM-RI 2nd	t	p
Min. – Max.	0.57 – 0.84	0.56 – 0.82	1.243	0.217
Mean ± SD.	0.70 ± 0.08	0.68 ± 0.07		
Median (IQR)	0.70 (0.66 – 0.73)	0.68 (0.64 – 0.72)		

IQR: **Inter quartile range** SD: **Standard deviation**
t: Paired t-test
p: p value for comparing **between 1st**and **2nd UM-RI**
For estimation the impression of corticosteroid on umbilical artery RI ratioMixed model ANOVA is used , exhibiting no significance or statisticdeviation between the two time measurements**.**

Table 2: Description of analytical data according to UM-PI (n=100) exhibiting no significance or statisticdeviation between the two time measurements.

	UM-PI 1st	UM-PI 2nd	t	p
Min. – Max.	0.89 – 1.37	0.87 – 1.33	1.761	0.081
Mean ± SD.	1.10 ± 0.14	1.07 ± 0.14		
Median (IQR)	1.13 (0.98 – 1.23)	1.11 (0.92 – 1.13)		

IQR: **Inter quartile range** SD: **Standard deviation**
t: Paired t-test
p: p value for comparing **between 1st**and **2nd UM-PI**

Conclusion

Corticosteroid administration was not related to any important alteration in ranges of the pulsatile indices, resistant index, or maximal speed of theblood in the foetal middle cerebral artery and the umbilical artery.