## Doppler Ultrasound Study of Fetal Middle Cerebral Artery and Renal Artery in Cases with Idiopathic Hydraminos

#### Thesis

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#### List of Abbreviations

**ACOG:** American College of Obstetricians and Gynecologists

**AF** : Amniotic fluid

**AFI**: Amniotic fluid index

**AFS**: Amniotic fluid-derived stem cells

**AFV**: Amniotic fluid volume

**BMI**: Body mass index

**BPP**: Biophysical profile

C/U ratio: Cerebral /Umbilical ratio

**CST**: Contraction stress test

**CWD:** Continuous wave Doppler

**DFV:** Doppler flow velocimetry

**EDV:** End-diastolic velocity

**EGF:** Epidermal growth factor

**Fd**: Doppler frequency

**FHR:** Fetal heart rate

**GA**: Gestational age

**G-CSF**: Granulocyte colony-stimulating factor

**IGF-I:** Insulin-like growth factor I

**IUGR:** Intrauterine growth restriction

**LVP:** Largest vertical pocket

**MCA:** Middle cerebral artery

**NST:** Non stress test

**PI**: pulsatility index

**PMR:** Perinatal mortality rate

**PRF:** pulse repetition frequency

**PSV:** Peak systolic velocity

**PW**: Pulsed wave Doppler.

**RA**: Renal artery

**RI**: Resistence index

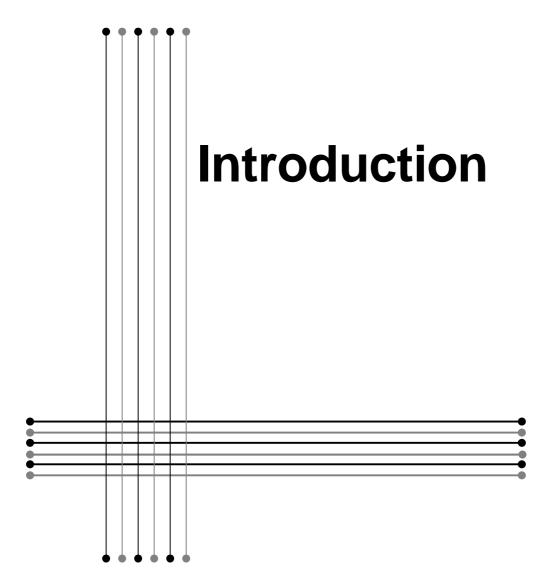
**ROC:** Reciever operator characteristic

**S/D ratio:** Systolic to diastolic ratio

**TGF-b1:** Transforming growth factor beta-1

**TTS:** Twin to twin transfusion syndrome

**UA**: Umbilical artery



### Introduction

Polyhydramnios is defined as an excess of amniotic fluid and is diagnosed when amniotic fluid index (AFI)  $\geq$  24 cm on real-time obstetric ultrasound, the single deepest pocket (SDP) as being  $\geq$  8cm, or the examiner's subjective assessment of having an increased amount of amniotic fluid volume (*Magann et al.*, 2007).

Adverse perinatal outcomes in patients with polyhydramnios have been associated with congenital fetal anomalies in numerous studies. Perinatal morbidity and mortality rates also significantly increase. (*Pauer et al.*, 2003)

The etiologic factors of polyhydramnios are varied and may include maternal and fetal conditions such as congenital anomalies, diabetes mellitus, isoimmunization, multiple gestations, and placental abnormalities (Many *et al.*, 1996). But the cause of polyhydramnios remains idiopathic in most cases (60%) (*Ben-Chetrit et al.*, 1990).

Idiopathic hydramnios is defined as hydramnios that is not associated with any apparent maternal or fetal cause (*Magann et al.*, 2007). It is an independent risk factor for perinatal morbidity and mortality. Although the precise mechanism is unknown, hydramnios may alter oxygen delivery to the fetus (*Mazor et al.*, 1996).