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

*Thesis*

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بسم الله الرحمن الرحيم

قَالُوا سُبْحَانَكَ لاَ عِلْمَ لَنَا إِلاَّ مَا
عَلَّمْتَنَا
إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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***Shoroq Mohamed El beshbeshy***

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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

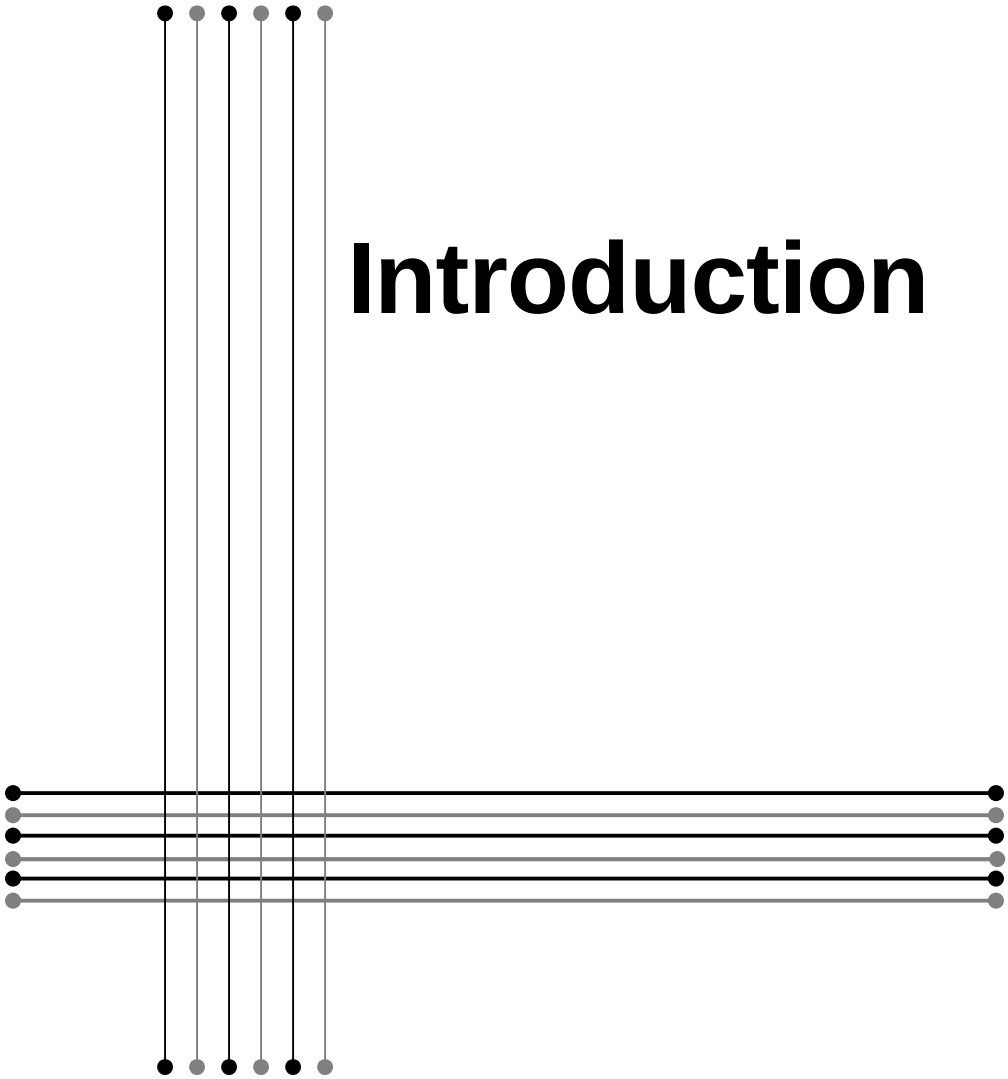
**ROC:** Reciever operator characteristic

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

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

**TTS:** Twin to twin transfusion syndrome

**UA :** Umbilical artery



# Introduction

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Polyhydramnios is defined as an excess of amniotic fluid and is diagnosed when amniotic fluid index (AFI) ≥ 24 cm on real-time obstetric ultrasound, the single deepest pocket (SDP) as being ≥ 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).***