

Clinical Significance of Fetal Renal Volume Assessment by Three-dimensional Ultrasonography in Women with High Risk Pregnancy

Protocol

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BY

Laila Ezzat Abd Elfattah

M.B.b.Ch.

Al Azhar University

House Resident, El Zahraa Hospital

Supervised by

prof. Samia Fahmy Abd Elhakem

Professor of Obstetrics and Gynecology

Faculty of Medicine for Girls

Al Azhar University

Samia Fahmy

Ebrahim Mahrous Kandil

Prof. Ebrahim Mahrous Kandil

Professor of Obstetrics and Gynecology

Faculty of Medicine

Al Azhar University

prof. Naglaa Hussein Mohamed

Assistant Professor of Obstetrics and Gynecology

Faculty of Medicine for Girls

Al Azhar University

Al Azhar University

Faculty of Medicine for Girls

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INTRODUCTION

the goal of modern reproductive medical care is to minimize perinatal mortality and the incidence of biological, physiological and social handicaps.

This can be achieved through many lines, including improved living conditions, better general health status among the population, standardization of antenatal care, regionalization of perinatal care, new medical discoveries and treatment modalities.

Nowadays, modern obstetrics aims at producing a healthy child capable of development through life.

High risk pregnancy concept is a great breakthrough in the quest for preventive practice in modern obstetrics, and the progress in medical sciences and technology again with changes occurring in society as well as in the practice of obstetrics, have not remove the excess risk some obstetrical patients may experience. What has changed over times is the emphasis within the high risk concept.

The clinical use of three dimensional ultrasound has rapidly spread to many specialties over the last ten years. The reason is easy to see, namely that single two-dimensional scans are often difficult to interpret and the mental correlation of multiple 2D scans to form a 3D image of anatomical morphology is taxing and uncertain. The rapid development of techniques for the real time tracking of special

position and orientation of ultrasound probes and the development of computer graphics, techniques for the presentation of anatomical images have made 3-D ultrasound a realistic diagnostic *tool* (*Linney and Den, 1999*).

Three dimensional ultrasonography is a promising new method for the visualization and volume estimation of internal structures which offers several potential advantages including the reduction of scanning time and the ability to store images that can be reviewed and reconstructed at a later date (*Hata et al.,1997*).

In addition, 3DUS offers advantages over 2DUS for the evaluation of normal and pathologic morphology for human embryos and fetuses at various stages of pregnancy (*Hata et al., 1997*).