شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

Accuracy of Multi-slice 3D-Doppler over 2D-Doppler in diagnosis of morbidly adherent placenta

Thesis

Submitted for Partial Fulfillment Master Degree
in Obstetrics & Gynaecology

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Sahar Mohamed Abdel-Maksoud

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List of Abbreviation

2DUS ..... Two-dimensional ultrasound

3D Doppler…….. Three-dimensional Doppler

3D PDMSV..... Three-dimensional power Doppler multi slice view

AIP ..... Abnormal invasive placentation

ALARA ..... As low as reasonably achievable

CBC ..... Complete blood picture

CI…… Confidence interval

CS ..... Cesarean section

EDD ..... Expected date of delivery

EDHS ..... Egypt Demographic and Health Survey

EGA ..... Estimated gestational age

FDA ..... Food and drug administration

IVF ..... In vitro fertilization

LUS ..... Lower uterine segment

MAP ..... Morbidly adherent placenta

MRI ..... Magnetic resonance imaging

MS 3D Doppler .. Multislice three-dimensional Doppler

NPV ..... Negative predictive value

ODM ..... Orthogonal display mode

OR ..... Odds ratio

PPV ..... Positive predictive value

PSV ..... Peak systolic velocity

RH ..... Rhesus factor

ROI ..... Region of interest

RR……. Relative risk

UKOSS..... UK Obstetric Surveillance System

PROTOCOL OF A THESIS FOR PARTIAL FULFILLMENT OF MASTER DEGREE IN OBSTETRICS & GYNAECOLOGY

Title of the Protocol: Accuracy of Multi-slice 3D-Doppler over 2D-Doppler in diagnosis of morbidly adherent placenta

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What is already known on this subject? AND What does t study add?

The incidence of placenta accreta should rise steadily over the next century as the frequency of cesarean sections and advanced maternal age, both independent risk factors, increases. The diagnosis of placenta previa accreta is possible by using gray-scale sonography, conventional color Doppler imaging and MRI through studying the relation of placenta to the uterine wall and nearby pelvic structures.

The potentially new modality of multislice 3D color power Doppler ultrasound has its value to achieve significantly increased diagnostic accuracy in prediction of massive hemorrhage by assessing the extent, location and quantification of abnormal uteroplacental neovascularization. Hence, multislice 3D ultrasound has the potential for providing additional information over conventional 2D ultrasound in the diagnosis of placenta previa percreta.

1.INTRODUCTION

Caesarean section (CS) is an important lifesaving operation for both mother and child, and its use has increased dramatically over the last decade . Mirroring global trends, CS rates in Egypt have steadily increased, reaching 52% of all deliveries according to the most recent 2014 Egypt Demographic and Health Survey (EDHS) and representing more than a 100% increase in the CS rate since 2005 ***(Elnakib et al.,2019).***

Many factors have been identified to be associated with CS across the world such as premature rupture of the amniotic membrane, cephalo-pelvic disproportion, fetal distress, multiple pregnancy, breech presentation, place of birth (private or public hospital), maternal preference, birth

weight, parity, maternal height and antenatal care use ***(Batieha AM et al., 2017).***

In women with placenta previa, the risk of placenta accreta varies from 2% in women younger than 35 years old with no previous caesarean section to 39% in women at or over 35 years of age with two or more caesarean sections. In the presence of these risk factors, the obstetrician must have a high index of suspicion for placenta accreta and take appropriate precautions. In particular, this condition must be included in the differential diagnosis in women with previous caesarean sections and anterior placentation ***(Min-Min Chou et al., 2009; Wu et al., 2005).***

Placenta accreta occurs when placental trophoblasts invade the endometrium beyond the Nitabuch's layer of decidua basalis, placenta increta occurs when placental trophoblasts invade the myometrium, and placenta percreta occurs when placental trophoblasts invade the serosa ***(Abuhamad et al., 2014)***.

The three forms of morbidly adherent placenta (MAP): placenta accreta, increta and percreta, represent a significant obstetric challenge, at times resulting in life-threatening bleeding , bladder injuries and/or peripartum hysterectomy. The increasing rate of cesarean section (CS) deliveries correlates with the rising incidence of MAP ***(Wortman, et al., 2013; Daskalakis, et al., 2007).***

This condition is often diagnosed during CS, upon placental removal, with unfavorable maternal outcome: attempts to remove the placenta can cause severe uterine bleeding. An accurate prenatal diagnosis is required to reduce the risk of maternal/fetal morbidity and mortality ***(Tikkanen, et al., 2011).***

Morbidly adherent placenta is a potentially life threatening condition and if unsuspected can lead to catastrophic postpartum hemorrhage, disseminated intravascular coagulopathy, renal failure, acute respiratory failure and maternal mortality, prenatal diagnosis is of