بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

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Comparison between Transabdominal and Transvaginal Sonographic Assessment of Lower Uterine Segment at Term in Women with Previous Cesarean Delivery

A Thesis

Submitted for partial fulfillment of Master degree
in Obstetrics & Gynecology

By

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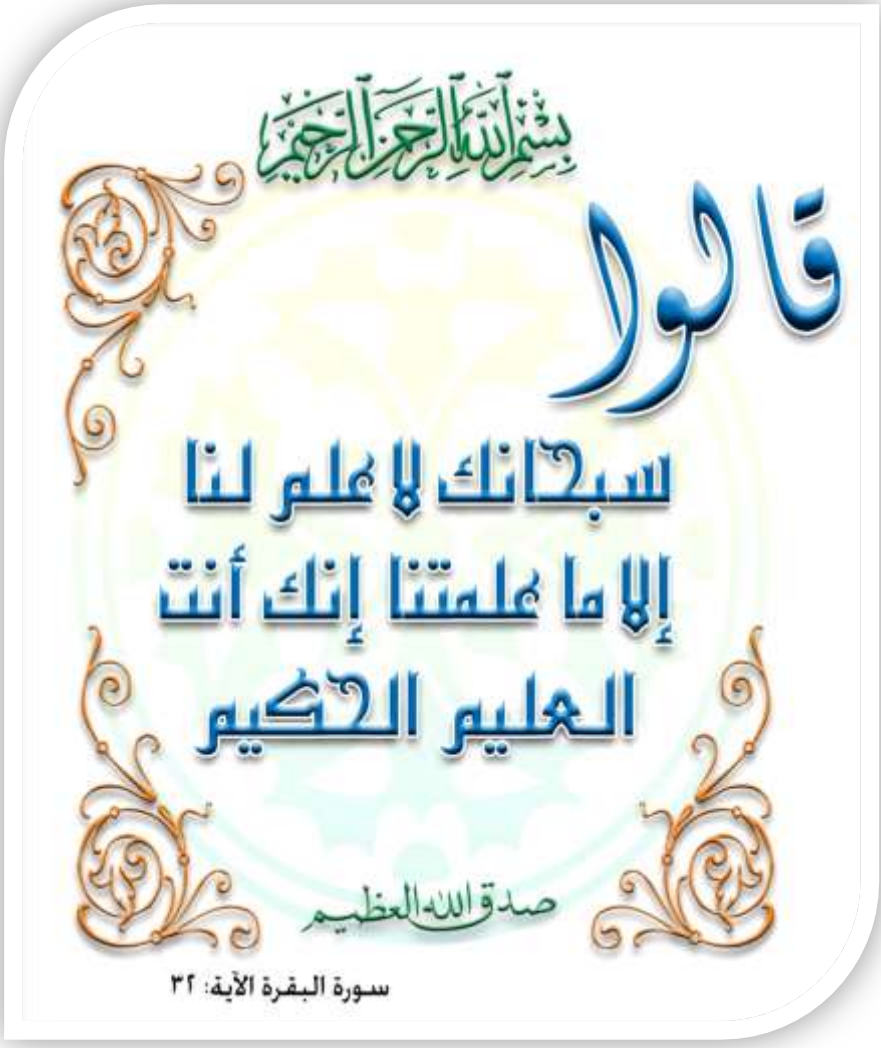
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Mahmoud Mohammed El Masry Abd Allah

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List of Abbreviations

Abbr.	Full-term
ACOG	American Collage of Obstetricians and Gynecologists
CS	Cesarean section
CSD	Cesarean scar defect
lUS	Lower uterine segment
SSI	Surgical site infection
VTE	Venous thromboembolism
MEWC	Maternal early warning criteria
MEOWS	Maternal early obstetric warning system
MFMU	Maternal fetal medicine unit
EDD	Expected date of delivery
GA	Gestational age
MRI	Magnetic Resonance imaging
SD	Standard deviation
SIS	Saline infusion sonohysterography
ERCS	Elective repeated cesarean section
PRCD	Planned repeated cesaerean delivery
TOLAC	Trial of labor after cesaerean section
TAUS	Transabdominal ultrasonography
TVUS	Transvaginal ultrasonography.
VBAC	Vaginal birth after cesarean section
HSG	Hysterosalpingography
WHO	World Health Organization

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Introduction

Caesarean section (CS) rates have increased over recent years and according to data from 150 countries, current rates range from 6% to 27.2%***(Betra´n et al., 2016).*** Accordingly, the number of CS complications has increased***(Gregory et al., 2012).***

Among early complications postpartum haemorrhage, obstetric hysterectomy due to uterine rupture or atony, urological complications, thromboembolic complications and amniotic fluid embolism may occur ***(Gregory et al., 2012).***

Late complications after CS include abdominal pain caused by adhesions, caesarean scar, endometriosis, ectopic pregnancy, caesarean scar defect (CSD),abnormal placenta implantation and even mortality***(Sholapurkar, 2018).***

First described in 1995 following examinations of myometrium samples after hysterectomy in patients who had undergone CS, a cesarean scar defect (CSD) may form at the site of hysterotomy on the anterior wall of the uterine isthmus***(Morris, 1995).***

Improper healing of the caesarean incision leads to thinning of the anterior uterine wall, which creates an indentation and fluid-filled pouch at the CS site ***(Bij et al., 2011).***

The complication is also known as uterine scar defect, caesarean scar syndrome, diverticulum, sacculation, isthmocele, scar pouch or niche***(Dosedla and Calda, 2017).***

The type of surgical technique used for uterine closure has been proposed as an important factor in the formation of CSD ***(Sholapurkar, 2018).***

Other factors such as prolonged labour, cervical dilatation >5cm before CS, oxytocin, retroverted uterus, low incision of the uterus have also been suggested as being responsible for the abnormal healing of the caesarean scar***(Vikhareva Osser and Valentin, 2010).***

The CSD may be asymptomatic or manifest with clinical symptoms including metrorrhagia (64%), dysmenorrhea (53%), chronic pelvic pain (40%), infertility and dyspareunia (18%)***(Wang et al., 2009).***

CSD may expand and lead to scar dehiscence or uterine rupture in a subsequent pregnancy as well as result in scar pregnancies and abnormal placentae***(Donnez et al., 2017).***

Ultrasound examination with the possible use of saline infused sonohysterography has been used in the diagnosis of CSD***(Uhar et al., 2015).***

One classification system for CSD was based on the shape of the niche detected from ultrasound findings ***(Bij et al., 2011).***

The niche was categorized according to its shape as follows: triangle, semicircle, rectangle, circle, droplet, inclusion cysts. Using this system, investigators found semi-circular and triangular niches were the most common of the six shapes ***(Bij et al., 2011).***

Although, there are no current guidelines for the management of CSD, this study will compare between trans-abdominal and transvaginal ultrasound in assessment of the LUS thickness at term pregnancy, in comparison with manual caliper measurements at cesarean delivery and find out predictive value of LUS thickness measurement in assessing integrity of LUS in women with previous cesarean delivery.