

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

# بسم الله الرحمن الرحيم





HANAA ALY



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكرونيله



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



HANAA ALY



شبكة المعلومات الجامعية التوثيق الإلكترونى والميكروفيلم

## جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



HANAA ALY



# Reproductive outcomes in Egyptian women following uterine septum resection

### **Thesis**

Submitted for partial fulfillment of master degree in Obstetrics and Gynecology

### By

### **AbdelRahman Adel Mohamed Anan**

M.B.B. Ch 2015

**Under Supervision of** 

### **Prof. Khaled Mohamed Diab**

Professor of Obstetrics & Gynecology
Faculty of Medicine – Ain Shams University

### **Assist. Prof. Mohamed Mahmoud Elsherbiny**

Assistant Professor of Obstetrics & Gynecology
Faculty of medicine – Ain Shams University

### **Assist. Prof. Radwa Mansour Mohamed Zaki**

Assistant Professor of Obstetrics & Gynecology Faculty of Medicine – Ain Shams University

Faculty of Medicine
Ain Shams University
2021



After thanking **Allah**, I would like to express my gratitude and appreciation, to all who have contributed to the success of this study.

I am extremely thankful to my principle supervisor, **Prof. Khaled Mohamed Diab** Professor of Obstetrics & Gynecology,

Ain Shams University-Faculty of Medicine, whose encouragement; guidance and support from the initial to the final step. I was very lucky to work under his supervision.

I am deeply indebted to my professor, Assist. Prof.

Mohamed Mahmoud Elsherbiny Assistant professor of

Obstetrics & Gynecology, Ain Shams University-Faculty of

Medicine, for his constant support and invaluable suggestions

which made this work successful.

I am also thankful to Assist. Prof. Radwa Mansour Mohamed Zaki, Assistant professor of Obstetrics & Gynecology, Ain Shams University-Faculty of Medicine, for her help and advice.

AbdelRahman Adel Mohamed Anan

### **Table of contents**

SUBJECT	Page
List of figures	i
List of tables	iii
List of Abbreviation	iv
Protocol	1
Introduction	1
Aim of the Work	5
Review of literature	6
Patients and Methods	48
Results	51
Discussion	58
Summary	65
Conclusion	69
Recommendations	70
References	71
الملخص العربي	1

### **List of Figures**

No.	Figure	Page
Fig 1	Diagrams of the ASRM definitions of normal/arcuate, septate, and bicornuate uterus based on assessment of available literature	10
Fig 2	Classification of Müllerian duct anomalies according to the AFS and correlation with the ESHRE/ESGE classification	11
Fig 3	Modified classification system of American Fertility Society proposed by (Salim et al., 2003), for congenital uterine anomalies.	14
Fig 4	Uterine measurements to classify anomalies according to modified classification system of American Fertility Society proposed by (Salim <i>et al</i> 2003).	15
Fig 5	ESHRE/ESGE classification of uterine anomalies	17
Fig 6	Scheme for the classification of female genital tract anomalies according to the new ESHRE/ESGE classification system	18
Fig 7	Three-dimensional multiplanar view of uterus.	21
Fig 8	Schematic representation of hysteroscopy in a case of Asherman's syndrome	32
Fig 9	List of surgical instruments that can be used in an operative hysteroscopy	33

Fig 10	Uterine septum. Hysteroscopy and macroscopic uterine factors. Fertil Steril 2019.	36
Fig 11	Trophy hysteroscope with diagnostic and operative accessory sheet. Diagnostic sheet in active position providing double flow after visual controlled dilatation.	40
Fig 12	French instruments used with trophy hysteroscope (Reproduced with permission: Courtesy R Campo) Newer Developments and Future Applications of Hysteroscopy in Infertility	40
Fig 13	Sagittal section of uterus during hysteroscopy office and perforation ( <i>arrow</i> ) at the fundus. Hysteroscopy Before Oocytes Retrieval. (Trojano, 2017).	43
Fig 14	Flow chart of the studied cases	51
Fig 15	Mode of delivery before and after septectomy among the studied cases	56
Fig 16	Curettage before and after septectomy among the studied cases	57

### **List of Tables**

No.	Table	Page
Table 1	Modified classification system of American Fertility Society Reproducibility of three-dimensional ultrasound diagnosis of congenital uterine anomalies	13
Table 2	The major differentiating features between types of hysteroscopy	30
Table 3	Indications of diagnostic and operative hysteroscopy	37
Table4	Contraindications of Hysteroscopy	38
Table 5	Demographic characteristics and risk factors among the studied cases	52
Table 6	Septectomy method among the studied cases	53
Table 7	Further interventions among the studied cases	54
Table 8	Pregnancy outcomes before and after removal of the septum among the studied cases	55
Table 9	Curettage before and after septectomy among the studied cases due to Miscarriage	57

### **List of Abbreviations**

2D TVS	Two-dimensional transvaginal sonography
3D	Three-dimensional
3D US:	Three-dimensional Ultrasonography
AFS	American Fertility Society
ART	Assisted reproductive technology
ASRM	American Society for Reproductive Medicine
Bcl-2	B-cell lymphoma 2
CUAs	Congenital uterine anomalies
ECD	Early Cancer Detection
ESGE	European Society for Gynecological Endoscopy
ESHRE	European Society of Human Reproduction and
	Embryology
GEU	Gynecology Endoscopy Unit
HSG	Hysterosalpingography
HS	Hysteroscopic septectomy
ICSI	Intracytoplasmic sperm injection
IUI	IUI intrauterine insemination
IVI	Instituto Valenciano de Infertilidad
MAs	Müllerian anomalies
NICE	The National Institute for Health and Care Excellence
NPV	negative predictive value

OBS	Office-based surgical
ОН	office hysteroscopy
OHIS	Operative hysteroscopy intravasation syndrome
OPD	Outpatient department
P	Probability of error
PPV	positive predictive value
RCT	Randomized controlled trial
RIF	repeated implantation failure
RM	Recurrent misscarge
RPL	Recurrent Pregnancy Loss
SWOT	Strengths, weaknesses, opportunities, threats.
TRUST	The Randomised Uterine Septumtranssection Trial
TRUST	The Randomized Uterine Septum Transection trial
VEGF	Vascular endothelial growth factor

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

**Title of the Protocol:** Reproductive outcomes in Egyptian women following uterine septum resection.

Postgraduate Student: AbdelRahman Adel Mohamed Anan

**Degree:** M.B.B.Ch., Faculty of Medicine – Mansoura University (2015)

**DIRECTOR: Prof. Khaled Mohamed Diab** 

**Academic Position:** Professor

**Department:** Obstetrics & Gynecology, Faculty of Medicine – Ain Shams

University

**Co-DIRECTOR:** Assistant Prof. Mohamed Mahmoud Elsherbiny

**Academic Position:** Assistant Professor

**Department:** Obstetrics & Gynecology, Faculty of Medicine – Ain Shams

University

Co-DIRECTOR: Assistant Prof. Radwa Mansour Mohamed Zaki

**Academic Position:** Assistant Professor

**Department:** Obstetrics & Gynecology, Faculty of Medicine – Ain Shams

University

#### 1.INTRODUCTION/ REVIEW

Incomplete resorption of the mullerian duct during embryogenesis leads to mullerian anomalies that results in uterine defect which may alter the reproductive outcomes of the patients (Grimbizes et al., 2001). Septate uterus is the most common congenital uterine anomaly, comprising approximately 55% of mullerian duct anomalies (**Toriano**, 2003). According to the latest European Society of Human Reproduction and Embryology (ESHRE) and European Society for Gynecological Endoscopy (ESGE) classification system of female genital anomalies, a septate uterus is defined as a uterus with a normal outline and an internal indentation (septum), at the fundal midline, exceeding 50% of the uterine wall thickness (Grimbizis et al., 2013). Septate uterus has been associated with reduced fertility, increased miscarriage rates, increased preterm births, malpresentation at delivery and intrauterine growth retardation (Chan et al., 2011; **Venetis et al., 2014).** Uterine septum resection by a hysteroscopy approach has been proved to be beneficial with significant improvement in pregnancy rates post procedure as well as shorter operating and hospitalization periods, reduced risk of post-operative pelvic adhesions, low morbidity and an increased rate of vaginal delivery (Rikken et al., 2017).

2. AIM / OBJECTIVES
<ul><li>Study Hypothesis:</li></ul>
Null Hypothesis:
Reproductive outcomes will not change before and after septal resection.
<ul><li>Study question:</li></ul>
<u>Is</u> there a difference in the reproductive outcomes in women with uterine
septum?
<ul><li>Aim of the study:</li></ul>
The purpose of our study is to evaluate the obstetric outcomes following
hysteroscopic resection of uterine septum.
<ul> <li>Ethical Consideration:</li> </ul>
No patient identifiers data will be collected (anonymously)

#### 3.METHODOLOGY:

#### Patients and Methods/ Subjects and Methods/ Material and Methods

#### Type of Study:

Retrospective – Case series Study.

### Study Setting:

At the Early Cancer Detection & Gyn Endoscopy Unit (ECD&GEU)-Ain Shams Maternity Hospital- Ain Shams University.

#### Study period:

### The study will be carried out from September 2019 till April 2020.

### Study Population:

All women who presented with uterine septum and underwent hysteroscopic septectomy in (ECD&GEU) during the period from January 2015 till December 2019.

#### o Inclusion criteria:

Women who underwent hysteroscopic septectomy during the period from 2015-2019.

The final diagnoses of uterus septum and its degree were all made hysteroscopy. All cases had done 2D U/S or 3D ultrasound or by hysterosalpingogram.

Diagnostic hysteroscopy was made prior to septum resection and pregnancy following the procedure was part of the "after septum resection" group.