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

The Effect of Intra-myometrial Methylergonovine Injection Versus Placebo on Decreasing Blood Loss During Trans-abdominal Myomectomy: A Randomized Controlled Interventional Clinical Trial

Thesis

Submitted for partial fulfillment of the Masters Degree in Obstetrics and Gynecology

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"Always take note of those who support you genuinely. Those are the people you should always keep around."

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A. E. Selim
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List of Abbreviations

Abbr.	Full-term
2D US	: Two Dimensional Ultrasound.
ABL	: Allowable Blood Loss.
ACOG	: American College of Obstetricians and Gynecologists.
ALT	: Alanine Transferase.
AUB	: Abnormal Uterine Bleeding.
BMD	: Bone Mineral Density.
BMI	: Body Mass Index.
CI	: Confidence Interval.
COCs	: Combined Oral Contraceptives..
EBV	: Estimated Blood Volume.
ESHRE	: European Society for Human Reproduction and Embryology.
FDA	: Food and Drug Administration.
FIGO	: Fédération Internationale de Gynécologie et d'Obstétrique.
FMDG	: FIGO Menstrual Disorders Group.
FSH	: Follicle-Stimulating Hormone.
GnRH	: Gonadotrophin Releasing Hormone.
Hb	: Hemoglobin.
HBV	: Hepatitis B Virus.
HCV	: Hepatitis C Virus.
H_f	: Final Lowest Acceptable Hematocrit.
H_i	: Initial Hematocrit.
IM	: Intramuscular.
INR	: International Normalized Ratio.
IUS	: Intrauterine System.
IV	: Intravenous.
LH	: Leuteinizing Hormone.
LM	: Laparoscopic Myomectomy

LSD	: Lysergic Acid Diethylamide
LUAO	: Laparoscopic Uterine Artery Occlusion.
M.W	: Molecular Weight.
Mcg	: Micrograms.
MRgFUS	: Magnetic Resonance-guided Focused-Ultrasound Surgery.
MRI	: Magnetic Resonance Imaging.
NG	: Nulligravida.
NSAIDs	: Nonsteroidal Anti-inflammatory Drugs.
OCs	: Oral Contraceptives.
PALM-COEIN	: Polyp, Adenomyosis, Leiomyoma, and Malignancy – Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic, Not yet classified..
PKA	: Protein Kinase A.
PRM	: Progesterone Receptor Modulators.
PT	: Prothrombin Time.
PTHrP	: Parathyroid hormone related protein.
PTT	: Partial Thromboplastin Time.
PV examination	: Pervaginal Examination.
RBCs	: Red blood Cells.
rHuEPO	: Recombinant Human Erythropoietin.
SOGC	: Society of Obstetricians and Gynaecologists.
UAE	: Uterine Artery Embolization.
UFE	: Uterine Fibroid Embolization.
USA	: United States of America.
Vs	: Versus.

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Introduction

Uterine leiomyomas are tumors of the myometrium that have a prevalence as high as 70% to 80% at the age of 50 ***(Okolo et al., 2008)***, the etiology and prevalence seem to vary with a number of factors including age, race, and possibly geographic location. Prevalence in the United States is almost 40% in white patients and more than 60% in women of African descent in the same age group ***(Parker, 2007)***.

Leiomyomas are listed as the diagnosis for about 39% of the approximately 600,000 hysterectomies performed each year in the United States ***(Zimmermann et al., 2012)***.

These benign tumors, are usually asymptomatic, and may be only detectable through ultrasound examination, or associated with a number of clinical issues including abnormal uterine bleeding (AUB) especially heavy menstrual bleeding (HMB), infertility, recurrent pregnancy loss, and complaints related to the impact of the enlarged uterus on adjacent structures in the pelvis, which are often referred to as ‘‘bulk’’ symptoms. It is generally perceived that the symptoms of HMB, infertility, and recurrent pregnancy loss largely occur as a result of lesions that distort the endometrial cavity that are therefore adjacent to the endometrium and

consequently referred to as submucous leiomyomas ***(Zimmermann et al., 2012)***.

Treatment options for leiomyoma vary; treatment strategies are typically individualized based on the severity of the symptoms, the size and location of the leiomyoma lesions, the patient's age and their chronological proximity to menopause, and the patient's desire for future fertility. The usual goal of therapy is the relief of the symptoms. The treatment options range from the use of acupuncture (ancient Chinese method) to the total removal of the uterus and its myoma contents (hysterectomy) ***(American College of Obstetricians and Gynecologists, 2008)***.

Treatment of fibroids should be individualized, and symptomatology may be a decisive factor in whether or not a fibroid is removed. Myomectomy remains the gold standard for treatment for patients who wish to preserve their uteri and desire future pregnancy. The procedure can be accomplished by either laparotomy (through an incision into the abdomen) or laparoscopically ***(William et al., 2013)***.

The presence of leiomyomas in the uterus distorts normal vascular architecture, thus, the arcuate arteries may run in any axis, rather than transversely, therefore, either

vertical or transverse incisions during myomectomy may transect these vessels and increase blood loss during the procedure ***(Discepola et al., 2007)***.

Many interventions have been performed to reduce bleeding during myomectomy. According to ***(Kongnyuy et al., 2011)*** four categories of interventions can be identified:

- *Interventions on uterine arteries:* such as uterine artery embolization ***(Dumousset et al., 2008)***, pericervical mechanical tourniquet ***(Helal et al., 2010)***, vasopressin (natural or synthetic) ***(Tulandi et al., 1996)*** and ***(Lurie and Mamet 2000)*** a vasoconstrictive solution of bupivacaine plus epinephrine ***(Zullo et al., 2004)*** and bilateral uterine artery ligation ***(Sapmaz and Celik 2003).***
- *Utero-tonics:* such as prostaglandins, misoprostol and, dinoprostone ***(Abdel-Hafeez et al., 2015),*** sytocinon, methergine, carboprost ***(Agostini et al., 2005)***, and more recently ascorbic acid and tranexamic acid ***(Lee et al., 2016).***
- *Myoma dissection techniques:* which include fibroid enucleation by morcellation ***(Sinha et al., 2005)*** and the use of chemical dissectors such as sodium-2-mercaptoethane sulphonate (mesna) ***(Benassi et al., 2000).***

- Pharmacologic *manipulation of the coagulation cascade:* with antifibrinolytic agents such as tranexamic acid ***(Caglar et al., 2008)*** and gelatin-thrombin haemostatic sealant ***(Raga et al., 2009).***

Aim of the Work

The aim of the current study is to compare the efficacy of intra-myometrial methylergonovine injection and placebo injection on reducing blood loss during trans-abdominal myomectomy.