بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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قسم

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MONA MAGHRABY

Reducing Blood Loss during Open Myomectomy with Intra-Myometrial Injection of Vasopressin versus Octreotide Acetate: A Double Blinded Randomized Controlled Trial

Thesis

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By

Mohamed Abd El Rahim Sadek Kenawy
M.B.B.Ch., Faculty of Medicine – Cairo University (2014)

Under Supervision of

Dr. Alaa El-Din Hamed El-Feky
Professor of Obstetrics & Gynecology
Faculty of Medicine, Ain Shams University

Dr. Mohamed Abdellatif Abdelhaleem
Assistant Professor of Obstetrics & Gynecology
Faculty of Medicine, Ain Shams University

Faculty of Medicine, Ain Shams University
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Mohamed Abd El Rahim Sadek Kenawy

List of Contents

List of Abbreviations

Abb.	Full term
ADH	*Antidiuretic hormone*
AUB	*Abnormal uterine bleeding*
AVP	*Arginine vasopressin*
BMI	*Body mass index*
ECM	*Major extracellular matrix*
FDA	*Food and Drug Administration*
FH	*Fumarate hydratase gene*
FIGO	*Federation of Gynecology and Obstetrics*
GnRH	*Gonadotropin releasing hormone*
HIFU	*High-intensity focused ultrasound*
HLRCC	*Hereditary leiomyomatosis and renal cell carcinoma syndrome*
HMB	*Heavy menstrual bleeding*
ITT	*Intention to treat*
IUS	*Intrauterine system*
LARCs	*Long-acting reversible contraceptives*
LVP	*Lysine vasopressin*
MED12	*Mediator complex subunit 12*
MRI	*Magnetic resonance imaging*
NSAIDs	*Nonsteroidal anti-inflammatory drugs*
OA	*Octreotide Acetate*
PDS	*Polydioxanone*
RF	*Radio frequency*
SARCs	*Short acting hormonal contraceptives*
SPSS	*Statistical Package for Social Sciences*
UAE	*Uterine artery embolization*
UFE	*Uterine fibroid embolization*
WDHA	*Watery diarrhea/ hypokalemic/ achlorhydria*

List of Tables

List of Figures

List of Figures cont...

INTRODUCTION

There are various pharmacological and non-pharmacological methods that have been tested to control haemorrhage during myomectomy. At present, there is moderate-quality evidence that misoprostol or vasopressin may reduce bleeding during myomectomy, and low-quality evidence that bupivacaine plus epinephrine, tranexamic acid, gelatin-thrombin matrix, ascorbic acid, dinoprostone, loop ligation, fibrin sealant patches, peri-cervical tourniquet, or tourniquet tied around both cervix and infundibulopelvic ligaments may reduce bleeding during myomectomy. There is no evidence that oxytocin, morcellation or temporary clipping of the uterine artery reduce blood loss ***(Kongnyuy et al., 2014).***

Vasopressin, a synthetic analogue of the posterior pituitary hormone antidiuretic hormone, is a pharmacological agent that is often injected into the uterus to reduce blood loss during surgery ***(Cohen et al., 2017).***

Injection of vasopressin is analogous to a medical tourniquet, with vasoconstrictive effects at the V1 receptors within the uterus. Administration of vasopressin also stimulates uterine contraction by myometrial V1a receptors ***(Chudnoff et al., 2012).***

Compared with placebo, vasopressin has been shown to decrease blood loss, blood transfusion and operative time during myomectomy ***(Zhang et al., 2015).***

On the other hand, and because it is a potent systemic vasoconstrictor, vasopressin may cause hypertension and bradycardia. It has a plasma half-life of 10-20 minutes. Care should be taken to infiltrate a dilute solution with hemodynamic monitoring. To avoid unwanted surges in blood pressure. The anti-diuretic activity of vasopressin can last for two to eight hours. This can be easily reversed with an intravenous diuretic like Frusemide ***(Sinha et al., 2011).***

In developing countries, vasopressin is not routinely used during conventional myomectomy due to non-availability and high cost, and therefore other less effective methods are used to reduce bleeding during open or laparoscopic myomectomy ***(Sinha et al., 2011).***

Octreotide Acetate (OA) (Sandostatine), is an octapeptide that mimics natural somatostatin pharmacologically. It is commonly used as an adjuvant agent in the management of variceal bleeding ***(Koul et al., 2012).***

It was also concluded that OA has a local arterial vasoconstrictive effect in patients with cirrhosis that is independent of systemic hormonal modulation of glucagon, this vasomotor action seems to be independent of Nitric Oxide ***(Alempijević et al., 2015).***

AIM OF THE WORK

The aim of the study was to assess the efficacy of local injection of OA in reducing blood loss during conventional abdominal myomectomy, and to compare it with local injection of vasopressin.

Primary outcome: Intra-operative blood loss was estimated by adding the volume in the suction container after completion of each procedure with the estimated blood loss from weighing of the soaked laparotomy mop packs which was placed dry in the abdomen after opening the parietal peritoneum.

Secondary outcome: Operative time and complications was registered. Postoperative parameters included haemoglobin values, need for blood transfusion and other complications was also tabulated.

Study hypothesis: In women undergoing open myomectomy, local injection of OA may be effective in reducing blood loss during conventional abdominal myomectomy.

Study question: In women undergoing open myomectomy, is local injection of OA more effective than local injection of vasopressin in reducing blood loss during conventional abdominal myomectomy?

Chapter 1

UTERINE LEIOMYOMAS

Uterine leiomyomas (also referred to as fibroids or myomas) are the most common pelvic tumor in women ***(Baird et al., 2011).*** They are noncancerous monoclonal tumors arising from the smooth muscle cells and fibroblasts of the myometrium. They arise in reproductive-age women and, when symptomatic, typically present with symptoms of abnormal uterine bleeding and/or pelvic pain/pressure. Uterine fibroids may also have reproductive effects (e.g., infertility, adverse pregnancy outcomes) ***(Wu et al., 2017).***

Terminology and location:

Uterine fibroids are described according to their location in the uterus although many fibroids have more than one location designation.