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بالرسالة صفحات لم ترد بالأصل

Comparing Transcervical Intrauterine Lidocaine Instillation with Rectal Diclofenac for Pain Relief During Outpatient Hysteroscopy: A Randomized Controlled Trial

Thesis

Submitted for Partial Fulfillment of Master Degree in Obstetrics and Gynecology

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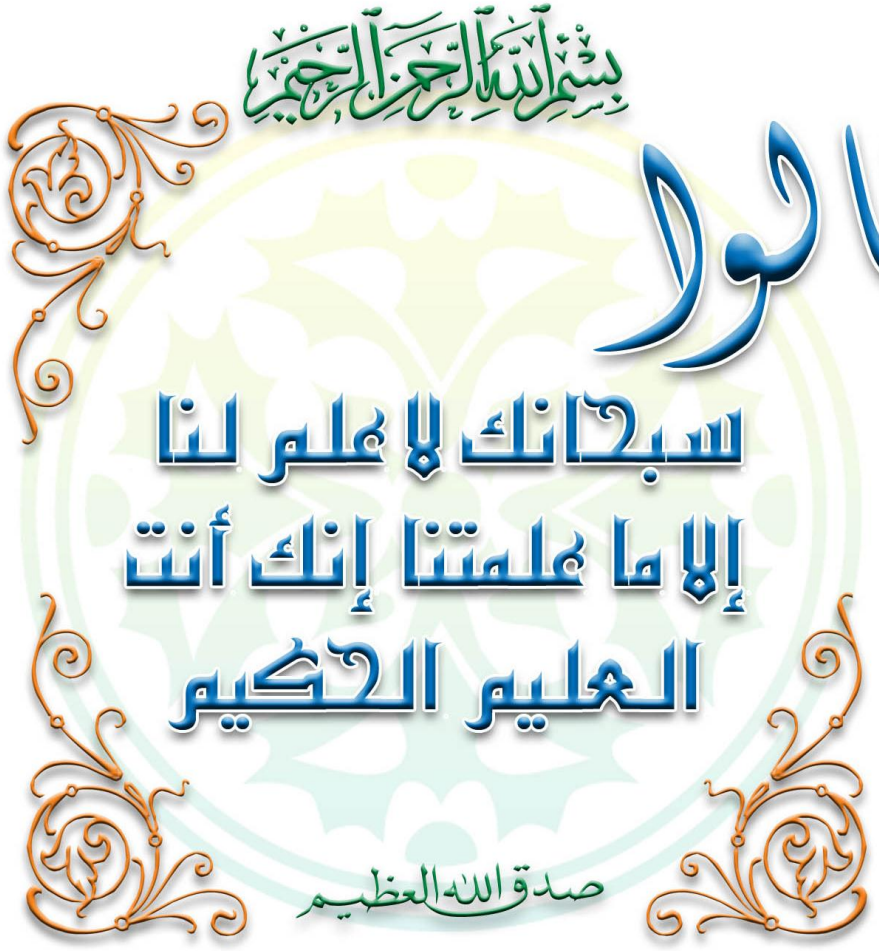

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Mohamed Ahmed Ismael Abozeid

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List of Abbreviations

Abb.	Full term
AUB	Abnormal uterine bleeding
BMI	Body mass index
BPT	Best practice tariffs
CI	Confidence Interval
ECDU	Early cancer detection unit
GA	General anaesthetic
HSG	Hysterosalpingogram
IMB	Intermenstrual bleeding
IQR	Interquartile range
IUD	Intrauterine device
LLETZ	Large loop excision of the transformation zone
MAC	Monitored anesthesia care
NSAIDs	Nonsteroidal anti-inflammatory drugs
OP	Outpatient
PASS	Power Analysis and Sample Size
PCB	Post coital bleeding
PMB	Postmenopausal bleeding
RCT	Randomized controlled trial
TENS	Transcutaneous electric nerve stimulation
TVUSS	Transvaginal ultrasound scan
VAS	Visual Analog Scale

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INTRODUCTION

Outpatient hysteroscopy is an established diagnostic test that is in widespread use across the world. The procedure involves the use of miniaturized endoscopic equipment to directly visualize and examine the uterine cavity, without the need for formal theatre facilities or general or regional anesthesia. Outpatient hysteroscopy is indicated primarily in the assessment of women with abnormal uterine bleeding, but is also employed in the diagnostic work-up of reproductive problems ***(van Dongen et al., 2009).***

More recently, advances in endoscopic technology and ancillary instrumentation have facilitated the development of operative hysteroscopic procedures in an outpatient setting with or without the use of local anesthesia. Common procedures include endometrial polypectomy, Removal of small submucous fibroids, endometrial ablation, Removal of lost intrauterine devices and transcervical sterilisation ***(Litta et al., 2008).***

Outpatient hysteroscopy, whether diagnostic or operative, is successful, safe and well tolerated. However, as with any procedure requiring instrumentation of the uterus, outpatient hysteroscopy can be associated with significant pain, anxiety and embarrassment. This not only impacts upon women's satisfaction with their experience, but also limits the feasibility and possibly the safety, accuracy and effectiveness of the procedure. To minimize pain and discomfort, variations

in hysteroscopic equipment, adaptations to the technique and use of pharmacological agents have been advocated ***(Sinha et al., 2007).***

Severe pain and patient anxiety are among the most common causes of surgical failure. Many anesthetic options are available to patients undergoing hysteroscopy. A Cochrane review supports the use of local anesthesia as effective pain control during and within 30 minutes of completing hysteroscopy ***(Duffy et al., 2010).***

Conventional panoramic hysteroscopy requires some form of anesthesia, while the smaller caliber flexible hysteroscopes require little to no anesthesia. For hysteroscopes of larger diameter, injectable local anesthetics combined with preoperative vaginal misoprostol (Cytotec) is usually sufficient. Occasionally, regional anesthesia, monitored anesthesia care (MAC), or general anesthesia may be indicated for more extensive procedures or for patients who have lower pain tolerance and/or anxiety.

Many practitioners favor the use of topical anesthesia, although studies have shown mixed efficacy. Aerosolized preparations of lidocaine may decrease cervical pain from tenaculum placement but do not decrease uterine sensation. Additionally, a study comparing the addition of lidocaine with the saline distension media showed no difference in pain score compared with saline alone ***(Shankar et al., 2004).***

In contrast, transcervical instillation of 5 mL of 2% mepivacaine lowered pain scores and decreased the rate of vasovagal reactions for women undergoing diagnostic hysteroscopy followed by endometrial biopsy. Topical anesthetics typically do not provide long-lasting relief but may be sufficient for the nonanesthetized woman ***(Soriano et al., 2000).***

Infiltration of the paracervical tissue with a local anesthetic is commonly used for hysteroscopic anesthesia. A paracervical block can decrease the pain of tenaculum placement, cervical dilation, and hysteroscope insertion through the cervix. However, paracervical anesthesia has less effect on the pain of uterine distension. One must balance the expected pain of the hysteroscopic procedure with the pain and potential side-effects of the paracervical block, which include bradycardia and hypotension. For these reasons, many providers choose to forgo this step, especially for brief diagnostic procedures. Common anesthetic agents are 1% lidocaine, mepivacaine, prilocaine, ropivacaine, bupivacaine, and etidocaine. Of these, bupivacaine and etidocaine have longer durations and can last upwards of 2-3 hours ***(Chudnoff et al., 2010).***

A recent study suggests that paracervical ropivacaine controls intraoperative pain slightly better than lidocaine during surgical abortions. In most cases, 10 mL of bupivacaine 0.25%, mepivacaine 1%, or lidocaine 1-2% is an adequate volume for paracervical anesthesia. If more volume is required,