Comparison of Three-dimensionl Ultrasound, Two- dimensionl Ultrasound and Outpatients Hystroscopy in Reproductive-aged Women with Abnormal Uterine Bleeding

Thesis

Submitted for Partial Fulfillment of Master Degree
in Obstetrcs and Gynaecology

By

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M.B.B.Ch
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دراسة مقارنة الموجات فوق الصوتية ثلاثية الأبعاد وثنائية الأبعاد والمنظار الرحمي لدي السيدات المصابات بالنزيف الرحمي في مرحلة الخصوبة

رسالة مقدمة توطئة للحصول على

درجة الماجستير **في أمراض النساء والتوليد**

مقدمة من

الطبيب/عبدالعزيز سالم مبارك

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Abd-ElAziz Salim Mubark

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Introduction

Abnormal uterine bleeding is one of most common gynecological complaints . Up to 33% of women referred to gynecological outpatient clinics have abnormal uterine bleeding and this proportion rises to 69% in perimenopausal or postmenopausal group. Local causes include fibroids, endometrial polyps, cervical polyps, endometrial hyperplasia, and endometrial carcinoma. In premenopausal women with complaints of abnormal uterine bleeding, the prevalence of benign intracavitary abnormalities, such as submucous myomas and endometrial polyps, is approximately 35% ***(Sefa Kelekci et al; 2005)***

More than 15 million women in the United States currently suffer from abnormal uterine bleeding, 6 million seek help each year. Women with abnormal uterine bleeding also may suffer from chronic anemia, pain, and cramping. They face debilitating medical problem that may adversely affect their job and ability to take care of family. ***(Cooper, 2000)***

The prevalence of abnormal uterine bleeding, the difficulties in identifying it's causes, and the cost of management argue for reliable diagnostic techniques and treatment strategies. An ideal approach would promptly identify patients with organic disease, facilitate patient comprehension and choice of treatment options, improve treatment efficacy and reduce overall cost of care.
(Jay M.1999)

The D&C procedure itself, although highly diagnostic yet it has many limitations including the need for general anesthesia, being a blind procedure with possible complications, only curettes 60% of

the endometrial cavity, missing a pathology such as polyps and submucous myomas. ***(Mencaglia & Hamou; 2002)***

French physician Pantaleoni described the first hysteroscopic procedure in 1869 but for almost 100 years gynecologist did not accept the technique, as it was not thought to be clinically useful. With improvement in optics, illumination systems and distension media, hysteroscopy is now considered the standard method for visualizing the uterine cavity. Women with abnormal uterine bleeding are generally investigated by a combination of pelvic ultrasound, hysteroscopy and endometrium biopsy. Hysteroscopy has the advantage of directly visualizing the uterine cavity and endometrium but cannot comment on myometrial or ovarian pathology. ***(Lynne et al; 2002)***

Abnormal uterine bleeding is the primary indicator for hysteroscopic evaluation. Approximately 60% of outpatient hysteroscopy is performed to evaluate abnormal bleeding ,but it also has been used to evaluate infertility, recurrent pregnancy loss, uterine anomalies, and suspected Asherman's syndrom. With the improvement in optics , video system , safe and effective distention media and reduced telescope size has led to increase acceptance of hysteroscopy by both physicians and patients when symptoms require direct intrauterine examination .***(Scott p. 2000)***

It's ease of use and acceptability has led to widespread promotion of routine diagnostic hysteroscopy for the primary investigation of abnormal uterine bleeding to identify localized lesions. The effectiveness of utilizing diagnostics hysteroscopy in

such away has not been evaluated as for as patient outcome is concerned .*(Christen Bain et al; 2002)*

Hysteroscopic complications have been described during the performance of diagnostic hysteroscopy . These are usually minor but may necessitate cessation of the procedure .It's important for the practitioner to be knowledgeable regarding potential complications in order to provide proper informed consent and manage complications when they occur. Some complications are perforation, infection , pain and distention media complications.
(Weiser F, Kurzc, et al; 1998)

The introduction of three-dimensional ultrasound has provided a potentially more sensitive discriminator of endometrial health and function. Volume measurements appear superior to conventional two-dimensional distance measurement, which themselves may be used to estimate volume through various algorithms, both in terms of their reliability and validity. *(NicholasJ et al; 2004)*

Three-dimensional ultrasound is usually used as an adjunct to two-dimensional ultrasound in the pelvis. It is used to evaluate a particular area of interest in the pelvis such as the uterus or the adenexa. Three-dimensional ultrasound imaging offers considerable promise in evaluating the pelvic organs because of possibility of arbitrary plane viewing , more accurate volume estimation viewing of contrast movements within the fallopian tubes, retrospective review of stored data , more accurate viewing of pathology, accurate identification of location of abnormalities needing surgical intervention, and assessment of tumor invasion
(Nelson, et al; 1999)

Aim of work

To compare the diagnostic accuracy of three-dimensional and two-dimensional ultrasound with the outpatient hysteroscopy for detection of underlying pathology of abnormal uterine bleeding in reproductive aged women .

Patients and Methods

Our study is a compartive study that will be conducted at Ain-Shams University Maternal hospital at the period starting from Jan 2007. 40 patients will be recruited for this study from the gynecological outpatient clinic in the reproductive-age group complaining of abnormal uterine bleeding.

The study and procedures will be explained to the patients before entering the study, and written consent will be obtained from women willing to participate in the study.

Inclusion criteria include:

- Absence of pregnancy
- Patient age 20 – 45 years
- Absence of local cause of bleeding .
- Absence of systemic cause of bleeding (hypertension, blood diseases).

Exclusion criteria include :

- Patients receiving hormonal therapy one month before the study.
- Previous history of cervical surgery.
- Previous difficulties with hysteroscopy.

(Sefa Kelekci et al; 2005)

All patients will be subjected to :

1- Full history taking with special attention to reproductive - aged women bleeding condition as regards onset, course, duration, possible etiology and possible complications, and a trial of investigations and treatment of that condition, past history of diseases or operations, blood transfusion, family history of a general disease or a similar condition and recent Obstetric complication.

2- General examination including vital signs as pulse, temperature, blood pressure, pallor, cardiac examination with the presence of thrills or murmurs, limb clubbing, abdominal examination including ascitis, and presence of scars of previous operations.

3- Local examination: including inspection of external genitalia, digital examination including P.V. and bimanual examination to detect the size of the uterus, its, position mobility any cervical masses, any adnexal masses, speculum examination and P.R. examination could be done if necessary.

4- 2 dimensional-ultrasound for detection of the uterine size endometrial thickness, endometrial index, together with evaluation of the ovaries and the adenexa.

5- Detailed 3 dimensional-ultrasound examination of the uterus to detect endometrial volume, abnormal endometrial pathology as polypi and submucous myomas with their relation to the endometrium, together with abnormal uterine anatomy as septate & bicornuate uterus.

6- Detailed hysteroscopy examination under general anesthesia for the endometrial cavity.

The findings were recorded by different investigators without the knowledge of each other finding.

The sensitivity, specificity, and positive and negative predictive values were calculated and compared with hysteroscopy findings uses as the gold standard.

Main out come measures

Sensitivity & specificity and positive and negative predictive value of Two-dimensional ultrasound & three-dimensional ultrasound & hysteroscopy to detect inteacavitary Abnormalities.

Results

The results will be analyzed statistically & discussed later.

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المقدمة

يعتبر النزيف الرحمي في مرحلة الحضوبة من اهم و اكثر المشكلات التي من جهة تؤرق السيدات إلى عيادات أمراض النساء حيث تمثل الى ٣٣% من اجمالي السيدات الاكثر تردد على العيادات وتبلغ ٦٩% من السيدات في سن اليأس.

ويعد النزيف الليفي والزوائد اللحمية الناشئة من بطانة الرحم من اكثر الأسباب حيث تمثل ٣٥% من اجمالي الحالات.

وقد تم عمل احصائيات في الولايات المتحدة حيث بلغ عدد السيدات اللائي يعانين من النزيف الرحمي إلى ١٥مليون سيدة في العام وهذه المشكلة تؤدي إلى أنيميا مزمنة و الام وتقلصات مما يعوق السيدات عن الاهتمام بالأسرة و العمل .

وتعد صعوبة النزيف الرحمي إلى صعوبة معرفة أسبابه وبالتالي تحديد العلاج الأمثل له ووضع استراتيجية للعلاج مما يقلل من الجهد المبذول و التكلفة العالية لمعرفة ما اذا كان السبب نفسي أو عضوي او فسيولوجي.

في السنوات العشر الماضية كانت عملية التوسيع والكحت من اهم خطوط العلاج ولكن قلت أهمية هذه العملية لاحتياجها إلى مخدر عام كما ان القصور في الرؤية المباشرة لبطانة الرحم تجعل عملية الكحت غير كاملة حيث يتم كحت ٦٠% فقط من بطانة الرحم تاركة الزوائد اللحمية الناشئة من بطانة الرحم والانزلاق البطاني.

وفي سنة ١٨٦٩ وصف العالم الفرنسي بانتالوني اول مناظير رحمي ولكن ظل عدم قبول أطباء النساء له إلى قرابة المائة عام غير ان تطور مناظير الرحم أصبح هو الطريق الأمثل لرؤية بطانة الرحم وأصبح الان من الممكن تفسير أسباب النزيف الرحمي نتيجة الرؤية المباشرة لبطانة الرحم.