

ROLE OF TRANSVAGINAL SONOGRAPHY IN INVESTIGATING THE CAUSES OF MENORRHAGIA

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ABSTRACT

Objective: To determine the role of transvaginal sonography (TVS) in finding the causes of menorrhagia in patients with no obvious pathology on bimanual examination.

Material and Methods: This study was conducted in the department of Obstetric and Gynaecology ("A" Unit), Postgraduate Medical Institute, Lady Reading Hospital, Peshawar over a period of one year from 01.11.2003 to 31.10.2004. Married women having menorrhagia with no pelvic mass on bimanual examination underwent TVS in private setup. Unmarried patient, patient with pubertal menorrhagia or postmenopausal patients on hormonal replacement therapy were excluded from the study. After taking detailed history they were thoroughly examined and investigated.

Results: Total of 65 cases underwent TVS for menorrhagia. The most common age group was 36-50 year. The commonest cause of menorrhagia on TVS was submucous fibroid of uterus in 38.5% cases (n=25), followed by adenomyosis in 27.9% (n=18) cases, endometrial hyperplasia in 23.07% (n=15), endometrial polyp in 9.23% (6 cases) and forgotten IUCD in 1.53% (n=1).

Conclusion: TVS is an effective diagnostic tool for finding a cause for abnormal uterine bleeding before proceeding for any operative procedure.

Key words: Menorrhagia, Transvaginal Sonography, Causes.

INTRODUCTION

Menorrhagia is defined as excessive menstrual blood loss both in amount and duration from the uterine cavity. Menorrhagia is a subjective complaint which might not be confirmed if blood loss was to be measured in all cases.^{1,2} About 30% of women describe their menstrual loss as heavy.^{2,3} In a study measuring menstrual loss, 25% of women with loss of < 60ml considered that they had heavy menses; 40% of women with loss of > 80ml considered that they had normal menses. The ability of sonography in particular transvaginal sonography (TVS) to depict subtle changes in the myometrium makes it the diagnostic modality of choice for the evaluation of many uterine disorders causing menorrhagia. Transvaginal ultrasonography is one of the preferred imaging modality in a patient with gynecological problem because of its non-invasiveness and wide availability. The use of vaginal probe can be thought of as natural extension of the conventional bimanual

examination. The fact that full bladder is not required improves patient acceptability. The role of scan in this context is to exclude the pathology in the form of fibroid or polyp.^{4,5}

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MATERIAL AND METHODS

This study was carried out in the department of Obstetric/Gynaecology "A" Unit, Postgraduate Medical Institute, Lady Reading Hospital Peshawar from 01.11.2003 to 31.10.2004. Married women having menorrhagia with no pelvic mass on bimanual examination were selected for the study. Unmarried patients, patient with pubertal menorrhagia or postmenopausal patients on HRT were excluded from the study. After taking a detailed history patients were thoroughly examined and investigated. Investigations included complete blood examination, liver function test, hormonal

AGE DISTRIBUTION

Age range	Frequency (n = 65)	Percentage
20-35 years	17	26.2%
36-50 years	38	58.4%
51 and above years	10	15.4%

Table 1

assay, and hepatitis screening before any procedure. Finally selected patients underwent TVS in private setup.

All these patients were advised to use sanitary pad of one company. Excessive bleeding was based on the criteria of using 5 pads per day and bleeding extending beyond 7 days of cycle with evidence of flooding or clot on any day of the cycle. Data collected were analysed manually.

RESULTS

Over a period of one year, 65 cases of menorrhagia were seen. The common age group was 36-50 years (Table-1). Twenty five (38.5%) patients had fibroid uterus while 18 (27.9%) patients had adenomyosis. Endometrial hyperplasia was found in 15 cases (23.07%). In one (1.53%) patient, forgotten intrauterine contraceptive device was found which had been put 10 years back (Table-2).

FINDINGS ON TVS

Findings	Frequency (n = 65)	Percentage
Submucous fibroid	25	38.46%
Adnomyosis	18	27.69%
Endometrial hyperplasia	15	23.07%
Endometrial Polyp	06	9.23%
Forgotton IUCD with no thread on P/V exam	01	1.53%

Table 2

All patients were anemic (Table-3). Twenty seven (41.5%) patients received blood transfusion followed by oral iron while 38 patients (58.45%) had injectable iron followed by oral iron (Table-3). Dilatation and curettage (D&C) was

ASSOCIATED ANEMIA

HB concentration	Frequency (n = 65)	Percentage
5 gm %	10	15.38
6-8 gm%	40	61.53
9-10% gm%	15	23.07

Table 3

done in all 65 cases while 3 patients (4.6%) had polypectomy and one (1.5%) had removal of intrauterine contraceptive device along with D&C.

INITIAL MANAGEMENT

Management	Frequency (n = 65)	Percentage
D & C	61 cases	93.84%
D & C Polypectomy	03	4.61%
D&C + Removal of IUCD	01	1.53%

Table 4

D&C: Dilatation and curettage
IUCD: Intrauterine contraceptive device

(Table-4).

Ten patients (15.4%) were lost to follow up after the initial D&C procedure. Thirty-Six (58.46%) patients underwent abdominal total hysterectomy, combined oral contraceptive pills were given in fifteen cases (23.07%) (Table-5).

**SUBSEQUENT MANAGEMENT (n = 51)
Lost to follow up=10**

Management	Frequency	Percentage
TAH [†] with BSO ⁰	16	24.61%
TAH [†] with conservation of ovaries	20	30.76%
COCP [*]	15	23.07%

Table 5

[†]Total abdominal hysterectomy
⁰Bilateral salpingo-oophorectomy
^{*}Combined oral contraceptive pills

DISCUSSION

Menorrhagia is one of the most common complaint in otherwise healthy women.⁶ One in three women experiences the problem at some stage on their lives.⁷ Approximately 7300 hysterectomies are performed annually in UK, of which 35-64% are for menorrhagia. In up to 50% of these cases no pathology is found on histological examination of the uterus.

Over the past several year TVS of the endometrium has assumed an integral role in the evaluation of women with possible endometrial disorder. TVS allows detailed delineation of endometrial thickness and texture in most patients. The sonographic findings have important implication in determining which patient need endometrial biopsy or D&C, observation or alteration of medication. TVS has a negative predictive value of 98% but lower positive predictive value 30% .^{8,9,10}

An ultrasound scan does not negate the need for a comprehensive history to be taken and physical examination to be carried for the assessment of the causes for abnormal uterine bleeding. However TVS can be seen as a natural

extension of the clinical examination.

Now a days D&C or hysteroscopy is not a 1st line therapy abnormal uterine bleeding. TVS can be use as a diagnostic modality. It help to find for out the cause of menorrhagia like polyp, fibroid or focal lesion. In post menopausal patient the endometrial thickness cut off value by TVS is not clearly defined. The study done in Japanese women, they came to the conclusion that TVS is helpful in postmenopausal asymptomatic patient than symptomatic patient.¹²

Sladkevicius et al conclude that TVS measurement of endometrium was a better discrimination between normal and pathological and between malignant endometrium then any Doppler variable¹³ TVS can actually identify polyp, fibroid or focal lesion short of detecting malignancy, as well as intrauterine adhesions and malformations of the uterine cavity avoiding unnecessary hysteroscopies.¹⁴

Until recently the diagnosis of endometriosis which is very common condition causing menorrhagia prior to hysterectomy was rare. TVS shown to have sensitivity and specificity of 86% and 86% for endometriosis, in 50% of cases malignant cyst may be clearly seen on TVS.¹⁵

TVS is now tool or of choice for the investigation of many gynecological disorders. The need for full bladder in not required and this is a practical advantage. Important thing is to be certain that the endometrium has been measured properly. An un-measurable endometrium should not be accepted being normal.¹⁶

An ultrasound scan is the natural extension of a comprehensive history and physical examination. Transvaginal ultrasound has an important role in the diagnosis of many gynecological disorders. The higher ultrasound frequencies used means that high-resolution images can be obtained and this led to an improvement in diagnostic accuracy for many conditions. The high sensitivity of transvaginal ultrasonography makes it an effective noninvasive test for selective women with vaginal bleeding who do not require endometrial biopsy. Conversely, its relatively poor specificity means that an abnormal endometrial thickness measurement needs to be followed up by a second stage test in the form of an endometrial biopsy.

CONCLUSION

TVS is safe and cost effective procedure. Patient having abnormal uterine bleeding irrespective of the cause should be treated as a high degree of suspicious and should have TVS because of its efficacy and safety. It can help to

assure and relieve the anxiety of the patient.

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