

Role of Transvaginal Sonography, Diagnostic Hysteroscopy and Dilatation and Curettage in Cases of Menorrhagia, in the Perimenopausal Age Group

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Summary

This study is a comparative analysis of the results obtained on subjecting perimenopausal patients with menorrhagia to the three diagnostic modalities i.e. transvaginal sonography, hysteroscopy and dilatation and curettage.

The study revealed that after eliminating the non-gynecological causes of menorrhagia, a sequential and detailed work up of these patients is mandatory as about 80% of their uteri harboured some pathology. These diagnostic modalities are complementary to each other i.e., they supplement and enhance the accuracy of tissue diagnosis. Thus the first procedure to which patients with abnormal uterine bleeding are to be subjected should be transvaginal sonography followed by hysteroscopy and hysteroscopically directed biopsy, wherever required.

Role of Transvaginal sonography, diagnostic hysteroscopy and dilatation & curettage in cases of abnormal uterine bleeding or menorrhagia in the perimenopausal age group (40-50 years) is discussed.

Introduction

Abnormal uterine bleeding (AUB) is a very frequent gynecological complaint and occurs across the entire age spectrum. Approximately 75000 hysterectomies are carried out each year, with 30% of these for menstrual problems alone.

The causes of AUB include a wide variety of gynecological and non-gynecological causes. Advancements in technology have made TVS and diagnostic hysteroscopy to become useful adjuncts to blind endometrial curettage. Hence with stepwise evaluation of all possible organic causes of AUB, therapy can be tailored more appropriately and efficiently, either by newly developed medical strategies or through selective minimally invasive surgery. This can prevent occurrence of serious consequences in some and improve

the quality of life in several others. It is therefore necessary to evaluate the causes of AUB in the perimenopausal age group using various diagnostic tools like hysteroscopy, TVS and histopathology and to correlate the results obtained.

Materials and Methods

Thirty patients of the perimenopausal age group i.e., 40-50 yrs with complaints of menorrhagia were randomly selected and subjected to detailed history, general physical, systemic and pelvic examinations. Further laboratory tests and X ray chest were done to eliminate non-gynecological causes of AUB as clotting dysfunction, hypothyroidism, chronic liver & renal failure endocrinological abnormalities and iatrogenic causes. Finally all of them were subjected to TVS in the postmenstrual phase and diagnostic hysteroscopy and

D&C in the premenstrual phase, in the same sitting. Findings of all these three were tabulated and statistically analysed. The complications, if any, were made note of.

Observations and Discussion

The results of the study carried out are presented in Table I and II.

Table III and IV present a comparison of results

other studies conducted using TVS vs histopathology and hysteroscopy vs histopathology respectively.

In the present study 60% of the women were anemic and in four women hemoglobin was less than 5gm%. None of the patients had clotting disorders. None of them was suffering from hypothyroidism or tuberculosis.

The analysis of findings obtained from

Table I: Transvaginal Ultrasonography vs Histopathology

Observations	Histopathology (Standard)	TVS (Test)	Accuracy of TVS
I. Normal endometrium	6	6	100%
II. Abnormal endometrium	24	24	100%
Hyperplasia	11	8	72.72%
Submucous myoma	4	8	*
Endometrial polyp	1	3	*
Ca endometrium	0	0	0
Atrophic endometrium	2	1	50%
Ashermans syndrome	0	0	100%
Lost IUCD	2	2	100%
Retained products of conception	2	2	100%
Inflammatory endometrium	2	0	0

* TVS findings considered more reliable than histopathology in cases of submucous myomas and endometrial polyps.

Table II: Hysteroscopy vs Histopathology

Observations	Histopathology (Standard)	Hysteroscopy (Test)	Accuracy of Hysteroscopy
I. Normal endometrium	6	6	100%
II. Abnormal endometrium	24	24	100%
Hyperplasia	11	10	90.91%
Submucous myoma	4	4	100%
Endometrial polyp	1	4	*
Ca endometrium	0	0	0
Atrophic endometrium	2	1	50%
Ashermans syndrome	0	1	*
Lost IUCD	2	2	100%
Retained products of conception	2	2	100%
Inflammatory endometrium	2	0	0

* Hysteroscopic findings considered more reliable than histopathology in cases of endometrial polyps and Asherman's syndrome (intrauterine synechiae).

Table III: Transvaginal Ultrasonography vs Histopathology

Study	Sensitivity	Specificity
Smith et al 1991	61%	75%
Consonni et al 1995	71%	34.8%
Emanuel et al 1995	96%	89%
Indman 1995	96%	53%
Towbin et al 1996	54%	90%
Present Study	85.65%	96.62%

Table IV: Hysteroscopy vs Histopathology

Study	Sensitivity	Specificity
Loverro et al 1994	80%	84.7%
Towbin et al 1996	79%	93%
Torrejan et al 1997	71.8%	96.4%
Present Study	87.29%	98.4%

subjecting the patients to hysteroscopy, TVS and histopathology, revealed that intrauterine causes of menorrhagia could be normal or abnormal endometrium. In this study, 20% of the patients had normal endometrium & 80% had some endometrial pathology. The various lesions found were endometrial hyperplasia, endometrial polyps, submucous myoma, atrophic endometrium, intrauterine synechiae, lost IUCD, retained products of conception and inflammatory endometrium. No patients with Ca endometrium were detected.

The efficiency of all the three diagnostic modalities is same i.e., in 20% cases normal endometrium, 6.67% lost IUCD and 6.67% retained products of conception. Submucous myoma was detected by TVS in 26.67% patients and in 13.33% of patients by hysteroscopy and D&C.

A study conducted also revealed that by TVS the most common cause of AUB was found to be leiomyoma. TVS is of particular value in appreciating and picking up of smaller leiomyomas of about 1cm in size which are too small to be detected by pelvic examination and can be easily missed by hysteroscopy or D&C.

With hysteroscopy more number of endometrial polyps (13.33%) and synechiae (3.3%) were detected. With TVS 10% patients showed endometrial polyps and with D&C only 3.33%. No intrauterine synechiae were detected with either TVS or D&C. Endometritis was one finding which was not detected by either hysteroscopy or TVS but was only diagnosed by histopathology, in 6.67% patients.

Comparative analysis of hysteroscopy with histopathology showed 100% accuracy of hysteroscopy in detection of normal endometrium, submucous myoma, retained products of conception and lost IUCDs. Hysteroscopy had higher accuracy in detecting endometrial polyps and intrauterine synechiae. Hysteroscopy had high accuracy to detect endometrial hyperplasia (90.91%). It exhibited only 50% accuracy as regards detecting atrophic endometrium and was not accurate for diagnosing endometritis.

Comparative analysis of TVS with histopathology showed 100% accuracy of TVS in detecting normal endometrium, intrauterine synechiae, RPOCs and lost IUCDs. It had accuracy in detecting submucous myoma and endometrial polyps. It had 72.7% accuracy in detecting endometrial hyperplasia and 50% accuracy in detecting atrophic endometrium. Endometritis could not be detected by TVS.

TVS cannot replace pelvic examination but only in obese patients, where pelvic examination may not be informative, TVS is considered superior. The overall sensitivity of TVS in the present study was 85.65% and specificity 96.62%. The overall sensitivity and specificity of hysteroscopy vs histopathology was found to be 87.29% and 98.10% respectively.

There were minimal side effects with the three procedures. Two patients (6.67%) experienced lower abdominal pain after D&C and one patient (3.3%) after hysteroscopy. No complication was observed with TVS.

In short, the key to evaluation of patients with AUB is through history, physical & pelvic examination governed by differential diagnosis of excessive bleeding and selective use of adjunctive diagnostic tools and procedures only when absolutely necessary. Best tool is one which gives quick results, is cheap, easily accessible, highly sensitive and specific, is cost effective and has minimal side effects.

Summary and Conclusions :

Conclusions of this study are as follows

1. Patients of perimenopausal age group with AUB must undergo an extensive diagnostic workup as approximately 80% of the patients had some detectable abnormality.
2. In those patients with AUB who have normal size uterus, it is essential to find whether the bleeding is dysfunctional or anovulatory, or there is an intracavitary uterine lesion.
3. Patients with abnormal uterine bleeding must be subjected to one of the three diagnostic modalities i.e. TVS, hysteroscopy or D&C.
4. Hysteroscopy was found to be more accurate in detecting endometrial hyperplasia, endometrial polyps and intrauterine synechiae (Ashermans syndrome)
5. TVS was more accurate in detecting submucous myomas. It was unable to pick up any cases of Ashermans syndrome.
6. Both TVS and hysteroscopy have equally high and similar sensitivity and specificity.
7. Endometritis is one condition which requires histopathological documentation and is not detected by either TVS or hysteroscopy.
8. Hysteroscopy allows a direct visual inspection of the uterine cavity and endocervical canal and can help to ensure that any foci of abnormal appearing endometrium is not missed. Also biopsy can be taken from the site for histopathological analysis.
9. TVS is more easily available, is rapid, less invasive, does not require anaesthesia, can detect all intracavitary and also adnexal abnormalities. Thus

more training and expertise in the technique of TVS can help the Gynecologist to select it as the first mode for diagnosis of patients with AUB.

10. Both TVS and hysteroscopy can detect endometrial intracavitary abnormalities with varying accuracies. These can supplement and enhance the accuracy of tissue diagnosis. Thus the first procedure to which patients with AUB are to be subjected should be TVS followed by hysteroscopy and hysteroscopically directed biopsy, wherever required. This would be ideal in cases of menorrhagia, where facilities are available.

References

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