

Role of Hysteroscopy and Laparoscopy in Evaluation of Abnormal Uterine Bleeding

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Abstract

Abnormal uterine bleeding poses a real challenge for the gynecologists. Dilatation and curettage has been the gold standard for differentiating benign from malignant endometrium. Hysteroscopy and laparoscopy are the recent addition to the armamentarium of investigations for abnormal uterine bleeding. This study was done to evaluate the role of hysteroscopy and laparoscopy in 75 women with abnormal uterine bleeding. Hysteroscopy findings were compared with histopathology in the diagnosis and etiology of abnormal uterine bleeding. Majority of the patients presented with menorrhagia (40%) and metrorrhagia (20%). Hysteroscopy showed abnormality detection rate of 66% as compared to 26.6% with traditional curettage. Diagnostic accuracy of hysteroscopy was higher in patients with polyps and myoma. Hysteroscopy allows the exclusion of intra uterine pathology with greater precision. Hysteroscopy is superior to curettage, though not a substitute for tissue diagnosis. Laparoscopy was performed in 50 cases including 16 of co-existent infertility, 25 cases with normal hysteroscopy findings and in 9 patients symptoms and signs indicative of pelvic inflammatory diseases were present. An abnormality was detected in 40% of these cases in the form of adhesions, leiomyomas, ovarian cysts, misplaced IUCDs and endometriosis. Thus laparoscopy can be complimentary to hysteroscopy in evaluation and management of patients with abnormal uterine bleeding.

Key Words

Hysteroscopy, Laparoscopy, Abnormal Uterine Bleeding.

Introduction

Abnormal uterine bleeding is one of the most common presenting symptoms in the gynecologic clinics. Approximately 20% of patients presenting to a gynecologist have this complaint (1). This proportion rises to 69% when the perimenopausal and postmenopausal age groups are considered (2). The causes of abnormal uterine bleeding are diverse and differentiating whether the source is the result of anovulation or anatomic lesions can be challenging to the gynecologist. The commonest investigation carried out in the work up of

patients of abnormal uterine bleeding is dilatation and curettage. However, the value of endometrial curettage is in the establishment of histopathologic diagnosis. The drawback of curettage is that it is a blind procedure and there is a chance of missing a small & focal lesion. The diagnostic failure of D&C may vary from 10% to 25% (3). Besides, dilatation and curettage is an invasive procedure and up to 2% complication rate has been reported for this (4).

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The fallacies of curettage suggest the need for better methods of evaluation of abnormal uterine bleeding. The diagnostic procedures such as hysteroscopy and laparoscopy are recent addition to the armamentarium of investigations for abnormal uterine bleeding. Hysteroscopy allows the exclusion of intrauterine pathology with greater precision. It also gives the opportunity to take the biopsy of the endometrium (5). In certain cases, use of hysteroscopy can be advanced as a therapeutic instrument and be used for resection of a polyp or myoma, endometrial ablation and resection (6). Laparoscopy is another diagnostic modality with a minimal access approach that allows direct visualization and remote handling of pelvic organs. It is invaluable in the identification of lesions that would not be otherwise detected by other diagnostic techniques. Laparoscopy, though not recommended as a routine investigation in patients with abnormal uterine bleeding, helps to rule out endometriosis, adnexal masses, pelvic Inflammatory diseases, ectopic pregnancy and leiomyomas (7).

The present study was undertaken to evaluate the role of hysteroscopy and laparoscopy in cases of abnormal uterine bleeding.

Material and Methods

The study was conducted on 75 patients of abnormal uterine bleeding in the Postgraduate Deptt of Gynae & Obst., SMGS Hospital, Govt Medical College Jammu. Patients enrolled in the study were in the age group of 20-60 years. They were classified into 5 groups, depending on the type of abnormal uterine bleeding namely menorrhagia, metrorrhagia, menometrorrhagia, polymenorrhoea and postmenopausal bleeding. Detailed relevant history was taken. The patients underwent the routine general physical and local examinations. Investigations done were haemogram, blood sugar (fasting and post prandial), renal function tests, serum electrolytes, ultrasonography, chest x-ray and PAP smear. After initial evaluation the patients underwent hysteroscopy and curettage in the same sitting under general anesthesia. Laparoscopy was not performed as a routine investigation but only when symptoms or signs

indicated or when history of infertility along with abnormal uterine bleeding existed.

Results

In the present study, majority of the patients i.e. 40% presented with menorrhagia (Table-1). Most of the patients were in the age group of 41-50 years as shown in Table 2. Majority i.e. 54.7% were multiparous while 21% were nullipara. Normal hysteroscopic findings were recorded in 25 (34%) cases as shown in Table 3 & 4.

Table 1: Distribution of patients according to Symptoms (N=75).

S.No.	Symptoms	No. of Patients	%age
1.	Menorrhagia	30	40
2.	Metorrhagia	15	20
3.	Menometrorrhagia	12	16
4.	Polymenorrhoea	12	16
5.	Postmenopausal bleeding	6	8
	TOTAL	75	100

Table 2: Distribution of patients according to age group and parity (N=75).

Age Group	Parity of patients			Total
	Nullipara Gravida	Multi Multipara	Grand Multipara	
20-30	2	2	1	5
31-40	8	16	6	30
41-50	5	18	10	33
51-60	1	5	1	7
TOTAL	16	41	18	75

Table 3: Hysteroscopy findings (N=75).

Findings	Hysteroscopy	%age of cases
Normal	25	34
Abnormal	50	66
Total	75	100

Table 4: Hysteroscopy findings (N=75).

Types of abnormal uterine bleeding		Hysteroscopy findings							No. of abnormalities detected
Types	No. of pts.	Hyperplastic endometrium	Endometrial carcinoma	Poly-p	Myoma	Intrauterine adhesions	Subseptate uterus	Forgotten IUCD	
Menorrhagia	30	9	--	7	8	0	1	1	25
Metrorrhagia	15	3	--	3	2	2	--	--	10
Menometrorrhagia	12	3	--	3	2	--	1	--	9
Polymenorrhoea	12	--	--	--	--	--	--	0	0
Postmenopausal bleeding	6	2	1	2	1	--	--	--	6
Total	75	17	1	15	13	2	2	1	50

Group-I Menorrhagia: An abnormality was detected in 25 out of 30 patients.

Group-II Metrorrhagia: Ten out of 15 patients had a detectable abnormality.

Group -III Menometrorrhagia: An abnormality could be detected in 9 out of 12 menometrorrhagic patients.

Group -IV Polymenorrhoea: No abnormality detected on hysteroscopy in this group.

Group-V Postmenopausal bleeding: Two patients had endometrial hyperplasia, two had polyp, one patient each had submucous myoma and carcinoma of endometrium.

Histopathologic examination detected an abnormality in 20 out of 75 patients. Normal histopathology reports were documented in 55 (73%) cases (Table-5). Comparison of the two diagnostic techniques in diagnosing abnormalities is reflected in Table 6. Laparoscopy was performed in 50 (66.6%) patients with abnormal uterine bleeding. Abnormal findings were detected in 20 patients as shown in Table 7. Sixty percent of women with abnormal uterine bleeding did not have evidence of organic pelvic disease on laparoscopy.

Table 5: Findings of Curettage (N=75)

Types of abnormal uterine bleeding		Histopathologic findings				Intrauterine lesion		Total No. of patients with abnormalities
Types	No. of Pts.	Irregular ripening	Hyperplasia	Tubercular endometritis	Endometrial carcinoma	Polyp	Myoma	
Menorrhagia	30	--	5	2	--	1	--	8
Metrorrhagia	15	1	1	--	--	3	--	5
Menometrorrhagia	12	1	2	--	--	--	--	3
Polymenorrhoea	12	--	--	--	--	--	--	--
Post menopausal bleeding	6	--	2	--	1	1	--	4
Total	75	2	10	2	1	5	--	20

Table 6: Comparison of various diagnostic techniques

Types of abnormal uterine bleeding	No. of Pts.	Diagnostic techniques	
		Lesion detected on hysteroscopy	Lesion detected on curettage
Menorrhagia	30	25**	8
Metrorrhagia	15	10	5
Menometrorrhagia	12	9*	3
Polmenorrhoea	12	0	0
Postmenopausal bleeding	6	6	4
Total	75	50	20

**P value <02 * P value <05

Table 7 : Abnormal findings on laparoscopy.

Findings	No. of patients
Adhesions	6
Ovarian cyst	5
Leiomyoma	4
Ectopic pregnancy	1
Misplaced IUCD	2
Endometriosis	2

Discussion

In the present study hysteroscopy showed its abnormality detection rate of 66%. These findings correlate with Siegler who reported abnormality detection rate of hysteroscopy at 43-47% (8). Saraiya *et al* reported similar findings (9). Overall age distribution in this study showed increasing number of patients in the older age group, which is in agreement with loeffler study (10).

In the present study, endometrial hyperplasia was detected in 17 (22.6%), polyps 15 (20.3%), myomas 13 (17%) and endometrial carcinoma in 1 (1.3%) on hysteroscopy. Leiomyoma was diagnosed in 13 (17%) of cases on hysteroscopy which were missed on curettage. Similar hysteroscopy findings have been reported by Siegler and Saraiya in cases of abnormal uterine bleeding. They reported 14-17% incidence of myoma in patients of abnormal uterine bleeding (8, 9).

The sub mucous myoma may be missed during curettage and the abnormal bleeding will persist because the myoma has been eroded by scraping. Hysteroscopy was found to be the better method for the diagnosis of polyps as it could diagnose 15 cases as against 5 with curettage.

The abnormality detection rate of hysteroscopy and curettage vary in different types of abnormal uterine bleeding as shown in Table 6. Hysteroscopy picked up an abnormality in 25 menorrhagic patients as compared to 8 cases with curettage. This difference in the detection rates of curettage and hysteroscopy is statistically significant (Table 7). Therefore, hysteroscopy is mandatory in the evaluation of the patients with menorrhagia. Similar findings were reported by Barbot *et al* in their study (11). None of the two techniques could detect a lesion in the patients with polymenorrhoea.

Therefore, none of the techniques had an edge over the other. Hysteroscopy and curettage were equally accurate in detecting a carcinoma endometrium in the patients with postmenopausal bleeding (Group-V) while curettage missed myoma in one patient and polyp in another patient with postmenopausal bleeding. In this study intrauterine adhesions were seen in two cases and subseptate uterus in two cases. These are lesions which cannot be picked up on histopathology. In one case a forgotten intrauterine contraceptive device was found. This patient had undergone curettage, but was not relieved of menorrhagia till hysteroscopy was done and the intrauterine contraceptive device identified and removed. In two cases hysteroscopy was normal but histopathology showed tubercular endometritis. In this series of 75 patients, there were no complications related to the hysteroscopic observations, with the exception of one case of uterine perforation in the initial phase of the study, but this patient was managed conservatively and did not require any additional treatment.

Laparoscopy was performed in patients with polymenorrhoea, coexistent infertility with abnormal uterine bleeding and in those in whom after hysteroscopy, a preliminary diagnosis of dysfunctional uterine bleeding was made. The abnormalities detected on laparoscopy were- adhesions, ovarian cysts, leiomyomas, ectopic pregnancy, misplaced intrauterine contraceptive devices and endometriosis. Similar observations were made by Ian Fraser (12). Hydrotubation was performed in cases with coexistent infertility. Three patients had cornual block and were subsequently treated by hysteroscopic tubal cannulation. In this study two patients with intrauterine contraceptive devices had menorrhagia and on P/V examination thread of Cu-T was missing. Patients underwent hysteroscopy for location and retrieval of the device. Intrauterine device was not observed in uterine cavity. Laparoscopy was performed in these two cases and device was removed laparoscopically from uterovesical fold of peritoneum in one patient and in other Cu-T was deeply embedded in omentum.

This small preliminary study shows that as compared to the traditional method of curettage, hysteroscopy is

beneficial in all types of abnormal uterine bleeding. According to Barbot blind curettage removes polyps in fragments together with strips making detection difficult for the pathologist (13). The ability to remove the entire polyp under visual control will result in a more reliable histopathologic examination.

Therefore this study establishes the superiority of hysteroscopy over D&C as a diagnostic technique for uterine conditions beyond doubt. Hysteroscopy is not a substitute for tissue diagnosis, hysteroscopy along with curettage improves the accuracy of clinical diagnosis, the procedures being complimentary. Though there is not sufficient experience to recommend liberal use of diagnostic laparoscopy in women with abnormal uterine bleeding but it should be considered in women who do not respond to initial medical therapy or have additional indications in their history. Diagnostic hysteroscopy and laparoscopy can be complimentary to each other in management of patients with abnormal uterine bleeding.

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Laparoscopy and hysteroscopy can be used for both diagnostic (looking only) and operative (looking and treating) purposes. Diagnostic laparoscopy may be recommended to look at the outside of the uterus, fallopian tubes, ovaries, and internal pelvic area. Diagnostic hysteroscopy is used to look inside the uterine cavity. Complications of hysteroscopy occur in about 2 out of every 100 procedures. Although still uncommon, perforation of the uterus (a small hole in the uterus) is the most common complication. Although perforations usually close spontaneously, they may cause bleeding or rarely result in damage to nearby organs, which may require further surgery. Uterine cavity adhesions or infections may develop after hysteroscopy.