Original Article

Diagnostic hysteroscopy versus diagnostic curettage for evaluation of endometrial pathology in patients with abnormal uterine bleeding

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Summary:

Background: To compare the diagnostic value of hysteroscopy with conventional curettage and to evaluate the sensitivity of both methods to detect intrauterine endometrial pathology in patients with abnormal uterine bleeding.

patients and Methods: This prospective study carried on 100 patients underwent diagnostic hysteroscopy as well as dilatation and curettage for abnormal uterine bleeding in two teaching hospitals, Al Yarmouk and Al Kadhmiya Teaching hospital / Baghdad from the period of Jan. 2002 to Dec. 2003, endometrial specimens were sent for separate histological study, the sensitivity of both methods were assessed according to the operative and histological findings.

Results: High sensitivity and positive predictive values of hysteroscopy and directed taken biopsy for almost all pathological causes of uterine bleeding except for atrophic endometrium (66.7%) and hyperplasia (33.1%). The sensitivity of dilatation and curettage is very low compared with hysteroscopy.

Conclusion: Hysteroscopy was more sensitive than dilatation and curettage in detecting endometrial polyp, submucuse fibroid, carcinoma but less sensitive than dilatation and curettage in detecting endometrial hyperplasia and atrophic endometrial . Hysteroscopy with directed biopsy taken provided high sensitivity in detecting pathological state of the endometrium.

Key words: Hysteroscopy, dilatation and curettage, abnormal uterine bleeding

Introduction:

Abnormal uterine bleeding is a common but complicated clinical presentation. One national study1 found that menstrual disorders were the reason for 19.1 percent of 20.1 million visits to physician offices for gynecologic conditions over a two-year period. Furthermore, a reported 25 percent of gynecologic surgeries involve abnormal uterine bleeding.2 Hysteroscopy is a procedure that enables a physician to visualize the inside of a woman's uterus by using a special telescope-like camera. The first such procedure dates back to 1869. However, it was not until the late 1970's that hysteroscopy gained widespread acceptance. It is considered as a valuable tool for both the diagnosis and treatment of several gynecologic conditions 3. Hysteroscopy with biopsy allows visualization of the endometrial cavity and is regarded as the "gold standard" for endometrial assessment.4,5 Diagnostic hysteroscopy can be performed in an office setting and requires no anesthesia or sedation. Operative hysteroscopy utilizes a rigid scope with a fluid distending medium and is useful for diagnosis and treatment. Before hysteroscopy was available, curettage was the primary method of evaluating abnormal uterine bleeding. Curettage, however, renders endometrial sampling blind and incomplete, so the diagnostic accuracy of curettage is less than that of hysteroscopy 6.

Patients and methods:

100 patients attending gynaecological clinic in Al Yarmouk and Al Kadhmiya Teaching Hospitals /Baghdad from the period of Jan. 2002 to Dec. 2003 were included in this study all were complaining of abnormal uterine bleeding , their age was between 40 to 60 years of age , after exclusion of pregnancy and it is complications by doing βhCG and pelvic ultrasound , all of them were subjected to detailed history, physical examinations and proper investigations including hormonal study (FSH, LH, Prolactin and thyroid function tests) pelvic ultrasound (transabdominal &/or transvaginal), coagulation profile, those with uterine bleeding due to thyroid disease, bleeding disorders ,big uterine fibroid ,adenexal mass or acute cervicitis, were excluded from the study. After taking consent of the patients, Diagnostic hysteroscopy and vision directed biopsy by grasping forceps under general anesthesia, followed by dilatation and curettage done for all patients; both specimens were sent for separate histological examination.

Results:

Clinical data were obtained from case histories, operative findings and histological reports. Hysteroscopy was successful in 99 patients, one

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failed due to cervical stenosis. Hysteroscopic findings were shown as in the tab. No. 1

Table No. 1: Distribution of patients according to the Hysteroscopic findings

Hysteroscopic findings	**No.**	**%**
Normal endometrium	45	45
Atrophic endometrium	6	6
Polyp	10	10
Hyperplasia	22	22
Cancer	1	1
Fibroid	8	8
Adenomyosis	3	3
Endometritis	3	3
Synchia	1	1
Failure of complete hysteroscopy	1	1
Total	100	100

Histological result of directed biopsy taken by hysteroscopy revealed that not all the cases seen by hysteroscopy confirmed by directed biopsy , the histological findings shown in Table No. 2.

Table No. 2: Distribution of patients with hysteroscopy according to findings of directly taken biopsy.

Hysteroscopic findings	Histological findings									Total
	Normal	Polyp	Fibroid	Hyperplasia	Cancer	Endometritis	Adenomyosis	synchia	atrophic	
Normal	30			15						45
Atrophic	2								4	6
Polyp		9		1						10
Submucous fibroid			8							8
Hyperplasia	15			7						22
Cancer					1					1
Endometritis				1		2				3
Adenomyosis							3			3
Synchia								1		1
Total	47	9	8	24	1	2	3	1	4	99

Dilatation and curettage was done for 99 patients and the histopathological findings failed to confirm cases with endometritis, adenomyosis or synchia , and most of the cases of atrophic endometrium , the case of carcinoma which was diagnosed by hysteroscopy conventional curettage failed to confirmed it but histopathological study after hysterectomy showed poorly differentiated adenocarcinoma .
The histopathological findings of D&C shown in Tab. No. 3

Table No. 3 Distribution of histopathoplgical findings for specimen taken by dilatation and curettage .

D&C	No.	%
Normal	58	58.59
Atrophic	1	1.01
Polyp	3	3.03
Hyperplasia	37	37.37
Total	99	100

The correlation between Hysteroscopic findings and histological examination of the specimen taken from the endometrium by dilatation and curettage shown in Table. No. 4

Table no. 4: Comparison between Hysteroscopic and D&C findings.

Hysteroscopic findings	D&C Findings						Total
	normal	polyp	Fibroid	hyperplasia	atrophic	cancer	
Normal	30			15			45
Atrophic	2			3	1		6
Polyp	3	2		5			10
Submucous fibroid	4			4			8
Hyperplasia	15	1		6			22
Cancer				1			1
Endometritis	1			2			3
Adenomyosis	2			1			3
Synchia	1						1
Total	58	3		37	1		99

The comparison between sensitivity and positive predictive values for hysteroscopy and sensitivity and negative predictive values for D&C was shown
in Tab. No. 5 ,specificities was not taken because there is no control group.

Table No. 5: Comparison between Hysteroscopic and histological findings

	D&C		Hysteroscopy	
	Sensitivity	Negative predictive value	Sensitivity	Positive predictive value
Atrophic endometrium	16.7%	94.9%	66.7%	100%
Polyp	20%	91.8%	100%	90%
Submucous fibroid	0%	91.9%	100%	100%
Hyperplasia	33.3%	40.5%	33.1%	31.8%
Cancer			100%	100%
Endometritis			100%	66.7%
Adenomyosis			100%	100%
Synchia			100%	100%

Sensitivity: is the probability that the test will be positive if the condition is present.
Negative predictive value: is the probability that the condition is absent if the test is negative.
Positive predictive value: is the probability that the condition is present if the test is positive.

Discussion:

This study showed a high sensitivity of Hysteroscopic examination in all conditions (100%) except in atrophic endometrium (66.7%) and in hyperplasia (33.1%), the positive predictive values for hyperplasia was 31.8% this is may necessitate an experience operator in differentiate secretary endometrium from hyperplasia.In comparison with sensitivity of D&C to atrophic endometrium it was 16.7%, for polyp 20% and for hyperplasia 33.3% , in addition the sensitivity to submucous fibroid and for carcinoma were 0% ,this confirmed the superiority of diagnostic hysteroscopy over D&C diagnosis of endometrial polyps, submucous fibroid, carcinoma and atrophic endometrium and this is goes with other study 7 In this study 45% of cases seen by hysteroscopy the endometrium was normal this is similar to studies done by Indman , Shwayder and Nagele 8,9,10. And 8% of hystrescopic findings was fibroid this is less than other studies 8,9,10,11, hyperplasia was found in 22% of cases in this study which is more than other studies 8,9,10, carcinoma found in 1% which is similar to other studies 8.9,10, adenomyosis was 3% which is similar to Shwayder and less than Towbin study 9,11.A study done by Bradley showed that D&C failed to detect 58% of polyps, 50% of hyperplasia, 60% of complex atypical hyperplasia, and 11% of endometrial cancers ,he concluded that when disease was global, D&C detected 94% of abnormalities 12.Other study done by Loffer showed that 10-35% of endometrial lesions may be missed because the diagnostic curettage is blind procedure and lack a reliable way to retrieve material after it is separated from the endometrial lining 5 . This study confirmed that diagnostic curettage is probably not the primary procedure for sampling of the endometrium especially in presence of focal endometrial lesion as the sensitivity in detecting polyp was 20% in compression to 100% in hysteroscopy , and failure to detect submucous fibroid and endometrial carcinoma (0%) in compression to 100% sensitivity for both with hysteroscopy.

Focal disease therefore mandates operative hysteroscopic-directed biopsy and removal of suspicious pathology.

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