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RESEARCH ARTICLE

EVALUATION OF DIAGNOSTIC HYSTEROSCOPY IN SCREENING OF ABNORMAL UTERINE BLEEDING

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ABSTRACT

Introduction: Abnormal Uterine Bleeding is a common phenomenon among women of reproductive age group. However, a thorough evaluation is often necessary to rule out serious conditions of the reproductive system. This study was done to evaluate the validity of diagnostic hysteroscopy in Abnormal Uterine Bleeding.

Methods: This cross sectional study was done on 50 patients who presented with Abnormal Uterine Bleeding. Each participant underwent panoramic hysteroscopy and subsequent curettage. The curetted endometrium was sent for histopathological examination.

Results: The age group of the patients ranged from 20-60 years. Most of the patients (42%) had symptoms for more than 1 year and most common presenting symptom was Memorrhagia (46%) and Postmenopausal bleeding (32%).Hysteroscopy reported 27 patients (54%) as negative view and 23 patients (46%) as abnormal view. Endometrial hyperplasia (20%) was the most common abnormality, followed by endometrial polyp (14%). The Sensitivity and Specificity for Hysteroscopy was 91.66%, 96.15% respectively and for curettage was 79.16%, 96.15%respectively.

Conclusion: The most consistent finding has been the detection of thickened endometrium of various types like simple, cystoglandular, adenoglandular hyperplasia, endometrial polyp and sub mucous myomas with 100% accuracy using hysteroscopy. Hysteroscopy revealed more information than curettage. Hysterscopy may be used as a valid screening tool for diagnosis of Abnormal Uterine Bleeding.

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INTRODUCTION

Although uterine bleeding is a normal physiologic episodic occurrence for most women, its characteristics nevertheless vary considerably. The broad range of normal variation causes difficulty in identifying abnormal patterns. The problem is that uterine bleeding has a wide range of diagnostic possibilities and confusion is generated when review and reports fail to outline the diagnostic evaluation of the patient who presents with abnormal uterine bleeding patterns. (Baggish, 2003) Goals of clinical management are primarily dependent upon attaining a correct etiological diagnosis. Eliciting medical history, physical and pelvic examination will attempt to determine the site of the bleeding and its sources. Information gathered from this will suggest suitable directionsin which the investigation could be done.

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Traditionally Dilatation and Curettage (D&C) and Ultrasonography were the most common investigations employed in the evaluation of the causes of abnormal uterine bleeding.Dilatation and Curettage is a blind procedure and the endometrium has to be sent to the Pathologist to study histological patterns and for the report. Ultrasonography clearly depicts the uterine contour and the status of the ovary, but fails to provide adequate information regarding the endometrium. Hysteroscopy has ushered a new era in the evaluation of abnormal uterine bleeding. By direct visualization of the uterine cavity it is able to pin point the etiology in the majority of the cases. It can accurately detect endometrial hyperplasia and aids in the early diagnosis of endometrial carcinoma and uterine polyps. (Lindemann, 1984) Abnormal uterine bleeding is one of the most common complaints with which a patient presents to a Gynecologist. (Beutner, 1898) D&C has long been the diagnostic gold standard for abnormal uterine bleeding. However, only 70% - 80% of the endometrium can be curetted by this method. Polyps and sub mucous fibroids are frequently undetected by curettage alone.

The Judicious use of hysteroscopy to manage this medical entity adds a new dimension in handling this often perplexing problem.

Objectives

- To evaluate the validity of hysteroscopy in evaluation of abnormal uterine bleeding.
- To correlate hysteroscopic findings with histopathological findings.

MATERIALS AND METHODS

Study setting

This cross sectional study was carried out by the Department of Obstetrics and Gynecology of our tertiary care hospital between March and August 2015.

Study population

All the patients who were admitted with a diagnosis of Abnormal Uterine Bleeding during the study period were included in the study based on the selection criteria.Participants were selected by consecutive sampling.

Inclusion criteria

- Age between 20-60 yrs..
- Both multi parous and nulliparous women were included.
- Women with history of Abnormal Uterine Bleeding

Exclusion Criteria

- Women with severe anemia due to menorrhagia
- Women with profuse bleeding.
- Large or multiple fibroids.
- Infection in the uterine tract.
- Women diagnosed with carcinoma cervix.
- Women on hormonal drugs.

Ethical approval and informed consent

This study was approved by the Institutional Ethics Committee. Each participant was explained in detail about the study and informed consent was obtained prior to the data collection.

Data collection

Participants were selected by diagnosis on History, General Physical Examination, Abdomen and Bimanual Pelvic Examination and Routine Investigations. Laboratory Investigations: Performed routine were: Blood Routine, Urine Routine, Blood Grouping and typing, BT, CT, and Ultrasonography. Other Investigations: (wherever necessary) Blood Urea, Serum Creatinine, RBS, ECG, HIV, HBsAg.

Hysteroscopy procedure

All the patients in this study underwent Hysteroscopy followed by subsequent Curettage and the curettings were sent for Histopathology analysis. Patients were advised to have a light dinner before 10 p.m. on the night prior to hysteroscopy. The patients were prepared as for any other surgical procedure. In this study, hysteroscopy was performed under IV anaesthesia. Drugs used: Ketamine: 2 mg / Kg body we. Diazepam: 10 mg. and Atropine: 0.6 mg. The Hysteroscope used was KALELKAR, INDIA. This instrument is a modified cystoscope consisting of a stainless steel sheath equipped with stop cock, controlled channels for distension medium and the passage of ancillary instruments.

An obturator to facilitate introduction of the sheath is a feature of the hysteroscope. Telescope used was of 4 mm 30 degrees fore-oblique lens with a 5 mm sheath. Illumination provided by a standard 150W bulb and is transmitted by a fibre optic cable. The instruments used for this procedure were Speculum, Vulsellum, Sponge holding forceps, D & C set with Dilators, Syringes and needles, and Distension medium used was Normal Saline (0.9%).

The procedure was done under anaesthesia. After catheterizing the bladder, a bimanual pelvic examination was done. After introducing Sim's speculum, the anterior lip of the cervix was caught with vulsellum. After measuring the length of the uterine cavity, the internal os was diated serially with Hegar's dilator (whenever necessary). Upto 8 Hegar's dialator was needed in some patients. The hysteroscope was introduced into cervical canal under vision. The uterine cavity was distended with 0.9% normal saline and examined for the nature of surface and colour of endometrium, glandular openings, vascular pattern, tubal ostia and any other abnormalities.

Curettage

Under the same anaesthesia, endometrial curettage was done with a sharp curette and the curettings were sent for histo-pathological examination.

Operational definition

Patients with normal uterine cavities without any questionable areas were labeled as 'NEGATIVE HYSTEROSCOPIC VIEW" when the following 3 criteria were met:

- Good visualization of entire uterine cavity.
- No structural abnormalities in the cavity.
- A uniformly thin, homogenous appearing endometrium without variation in thickness.

Post operatively, participants were observed for any complications and were put on a broad spectrum antibiotic. Most of the participants were discharged on the following day.

Data analysis

The results of Hysteroscopy and Endometrial Histopathology were studied and analyzed. The analyzed data was compared with other series in literature and discussed. A master chart dealing with all aspects has been designed and presented. All statistical analysis were performed with SPSS software.

RESULTS

This study was carried out among 50 participants who were admitted with a diagnosis of Abnormal Uterine Bleeding. About 40% of the participants belonged to 30-39 years of age.

The background characteristics of the study participants are given in table 1. The hysteroscopic findings of the study participants are given in table 2. About 54% of the participants showed normal hysteroscopic findings, while 20% showed thickened endometrium.

Table 1. Background characteristics of the study participants

S. No	Characteristics	Frequency (n=50)	Percentage
1	**Age (in years)**		
	20 – 29	2	4
	30 – 39	20	40
	40 – 49	18	36
	50 – 60	10	20
2	**Duration of symptoms**		
	< 6 months	14	28
	6 months to 1 year	15	30
	>1 year	21	42
3	**Clinical presentation**		
	Menorrhagia	23	46
	Polymenorrhea	6	12
	Metrorrhagia	5	10
	Post – Menopausal Bleeding	16	32
4	**Parity**		
	Nulliparous	3	6
	Multiparous	28	56
	Grand Multi	19	38

Table 2. Hysterscopic findings of the study participants

S. No	Findings	Frequency (n=50)	Percentage
1	Normal	27	54
2	Thickened Endometrium	10	20
3	Endometrial Polyps	7	14
4	Submucousmyoma	2	4
5	Endometrial Atrophy	3	6
6	Endometritis	1	2

The histopathology findings among the study participants is given in table 3. Histopathology was normal in 60% of the participants, while endometrial hyperplasia was seen in 20% of the participants.

Table 3. Histopathology findings of the study participants

S. No	Findings	Frequency (n=50)	Percentage
1	Normal	30	60
2	Endometrial hyperplasia	10	20
	Simple	5	10
	Cystoglandular	4	8
	Andenomatous	1	2
3	Endometrial Polyps	3	6
4	Submucousmyoma	1	2
5	Endometrial Atrophy	4	8
6	Endometritis	2	4

A comparative analysis of validity of hysteroscopy and D&C is given in table4. Hysteroscopy showed higher sensitivity (91.6%) compared to D&C (79.2%). However, specificity was equal for both the techniques (96.2%).

Table 4. Comparison of validity between hysteroscopy and D&C

S. No	Parameters	Hysteroscopy (%)	D&C (%)
1	Sensitivity	91.66	79.16
2	Specificity	96.15	96.15
3	PPV	95.65	95.65
4	NPV	92.59	83.33
5	Accuracy	94	88

The final diagnosis of the study participants is given in table 5.

Table 5. Final diagnosis of the study participants

S.No	Diagnosis	Menorrhagia	Polymenorrhea	Metrorrhagia	PMB	Total	
						No.	%
1	Polyp	5	1	0	1	7	14
2	Fibroid	1	1	0	0	2	4
3	Hyperplasia	1	0	2	7	10	20
4	Endometritis	1	0	0	0	1	2
5	E. Atrophy	0	0	1	3	4	8
6	Normal	15	4	2	5	26	52
	Total	23	6	5	16	50	100

DISCUSSION

The present study was performed in 50 consecutive cases of AUB and its correlation with histopathological findings was sought. The age group in this study was between 20-60 years and maximum incidence was between 30-39 yrs. Panda found that maximum age incidence was between 35-45 Yrs. in range between 25-70 Yrs.(4) In Gianninoto's series (Gianninoto et al., 2003), age range was 38-80 Yrs. and commonest incidence was between 30-45 Yrs. Trotsenburg reported maximum age incidence between 41-50 Yrs. (Van Trotsenburg et al., 2000) The most common presenting complaint in this series was menorrhagia (46%) followed by Postmenopausal Bledeing (32%) and Polymenorrhea (12%). Panda's series had 60% cases of menorrhagia followed by Polymenorrhagia and Metrorrhagia.(4)In this study, abnormal findings on hysteroscopy were found in 23 patients (46%) while in the remaining 27 patients (54%), no abnormality was detected. Of the 23 cases with abnormal findings on hysteroscopy, commonest seen was Endometrial hyperplasia (10 cases, 20%), followed by Endometrial polyps (7 cases, 14%) and Submucous Myoma (2 cases, 4%). Panda (Panda et al., 1999) found endometrial hyperplasia in 28.3%, Wamsteker (Wamsteker, 1984) found endometrial polyp in 19% endometrial hyperplasia in 12.2% and submucous myoma in 7.8%, Trotsenburg (Van Trotsenburg et al., 2000) observed myomas and polyps in 14%.Hysteroscopy diagnosed all cases of endometrial hyperplasia, polyps and myomas with a specificity of 100%. Sheth (Sheth et al., 1990) reported 81.8% accuracy in diagnosis of polyps and myomas, while Garuti reported 95.4% specificity in diagnosis of polyps. (Garuti et al., 2001)

In the present study, hysteroscopy made a false positive diagnosis of endometritis in 1 case and missed the diagnosis of 1 case each of endometrial atrophy and endometritis. The accuracy of hysteroscopy in this study was 94% and that of endometrial histopathology was 88%.A Statistical analysis of the accuracy obtained by various authors and of the present study shows that there is no significant difference between the values. There is no significant difference between sensitivity and specificity obtained in this study and that obtained by various other authors. This confirms the validity of hysteroscopy done in the present study. A Comparison of sensitivity and specificity of endometrial curettage obtained in the present study with those obtained by other authors shows no significant difference between the obtained values. In the present study, the results of hysteroscopy and dilatation and curettage were in agreement in 82% patients, hysteroscopy revealed more information than curettage in 12% patients and curettage revealed more information than hysteroscopy in 6% patients. This is comparable to other similar studies which show that Panoramic Hysteroscopy is better than Curettage in the evaluation of abnormal uterine bleeding.

Conclusion

- This study confirms that hysteroscopy is superior to curettage in evaluating patients with abnormal uterine bleeding.
- Hysteroscopy is a safe, reliable and quick procedure in the diagnosis of cases with abnormal uterine bleeding with high sensitivity, specificity and negative predictive value.
- The concern of today's Gynecologist while evaluating abnormal uterine bleeding is not to miss a significant cancerous lesion. The chances that such a lesion would be missed are rare, if we stick to the criteria for negative hysteroscopic view and usually no further investigation may be necessary.

It would be prudent to obtain endometrial tissue for histopathological examination, especially in perior post menopausal patients in spite of negative hysteroscopic view.

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