

Abnormal Uterine Bleeding- evaluation by Endometrial Aspiration

Pratibha Singh

Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Jodhpur, Rajasthan, India

ABSTRACT

Endometrial evaluation is generally indicated in cases presenting with abnormal uterine bleeding (AUB), especially in women more than 35 years of age. AUB encompasses a variety of presentation, for example, heavy menstrual bleeding, frequent bleeding, irregular vaginal bleeding, postcoital and postmenopausal bleeding to name a few. Many methods are used for the evaluation of such cases, with most common being sonography and endometrial biopsy with very few cases requiring more invasive approach like hysteroscopy. Endometrial aspiration is a simple and safe office procedure used for this purpose.

Materials and Methods: We retrospectively analyzed cases of AUB where endometrial aspiration with Pipette (Medgyn) was done in outpatient department between January 2015 and April 2016. Case records (both paper and electronic) were used to retrieve data. **Results:** One hundred and fifteen cases were included in the study after applying inclusion and exclusion criteria. Most cases were between 46 and 50 years of age followed by 41–45 years. No cases were below 25 or more than 65 years of age. Heavy menstrual bleeding was the most common presentation of AUB. Adequate samples were obtained in 86% of cases while 13.9% of cases' sample was inadequate for opinion, many of which were later underwent hysteroscopy and/or dilatation and curettage (D and C) in operation theater; atrophic endometrium was the most common cause for inadequate sample.

Uterine malignancy was diagnosed in three cases. **Discussion:** Endometrial aspiration has been compared with traditional D and C as well as postoperative histopathology in various studies with good results. Many such studies are done in India as well as in western countries confirming good correlation with histopathology and adequate tissue sample for the pathologist to give a confident diagnosis. No complication or side effect was noted with the use of this device.

Conclusion: Endometrial aspiration is a simple, safe, and effective method to sample endometrium in cases of AUB avoiding risk of anesthesia and is less time-consuming. Many similar devices are also available in the market and need to be popularized in all parts of the country.

KEYWORDS: Abnormal uterine bleeding, atrophic endometrium, dilatation and curettage, endometrial aspiration, endometrial hyperplasia, endometrial malignancy

INTRODUCTION

Abnormal uterine bleeding (AUB) is one of the most common complaints for which a woman reports to the gynecologist. AUB encompasses a wide variety of presentations, for example, heavy cyclical bleeding, frequent menstrual cycles, frequent and heavy cyclical bleeding, irregular bleeding, and

postcoital bleeding. It is a perplexing problem both for the Gynecologists and patients frequently requiring many diagnostic modalities like- ultrasonography

Address for correspondence: Dr. Pratibha Singh, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Basni Industrial Area, Jodhpur - 342 005, Rajasthan, India. E-mail: drpratibha69@hotmail.com

Access this article online

Quick Response Code:



Website: www.jmidlifehealth.org

DOI: 10.4103/jmh.JMH_109_17

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Singh P. Abnormal uterine bleeding- evaluation by endometrial aspiration. J Mid-life Health 2018;9:32-5.

and Endometrial tissue for further evaluation. As the incidence of Endometrial cancers are increasing worldwide it is important to rule out Endometrial cancer in these women. Recently, ACOG – American college of Obstetrician and Gynecologists has characterized suspicious bleeding as irregular menses, intermenstrual bleeding, and postmenopausal bleeding; evaluation of AUB in premenopausal women should be based on symptomatology and clinical presentation.^[1,2] USG is mostly the first investigation done for evaluation. Along with this, saline infusion sonography and three-dimensional USG have also gain popularity in evaluating the cause for AUB. Although the gold standard is hysteroscopy and directed biopsy, it is too invasive requiring anesthesia and is also time taking. Endometrial aspiration is a quick outpatient department (OPD) procedure done without anesthesia and is comfortable to both patients as well as the gynecologists but is often underutilized due to many reasons – cost of the various sampling devices, comfort of the gynecologist in using them, doubt about the adequacy of the representative sample to name a few.

We present here our experience with OPD-based endometrial aspiration, which we are using routinely for the evaluation of AUB. Data were collected retrospectively from January 2015 to April 2016 of women presenting with AUB and the workup done as per our standard protocol. Both paper and electronic record were searched for patient characteristics and various histopathological reports and to identify hyperplasia and carcinoma in them.

MATERIALS AND METHODS

This is a retrospective observational study done at AIIMS, Jodhpur. Data were collected from January 2015 to April 2016 of patients who underwent OPD-based endometrial aspiration with a clinical diagnosis of AUB. Most of these patients also had cervical cytology and USG done as part of evaluation either at our hospital or at other place. Hysteroscopy and/or endometrial biopsy were done in operation theater (OT) in some cases of suspected polyp and uterine anatomic abnormality as suggested by USG or where endometrial sample was not adequate for opinion on histopathology report.

Patients of known or suspected malignancy (cervical, endometrial, ovarian), patients on hormone replacement therapy for menopausal symptoms, Patients who refused for further investigation, diagnosis of uterine or cervical polyp on sonography were excluded from this study. Patients undergoing endometrial evaluation for infertility workup, suspected to be having pregnancy-related problems or pyometra or hematometra, were also excluded from the study. Two cases were excluded due

to inability to do the procedure as the instrument could not be negotiated into the uterine cavity.

RESULTS

Data were collected from paper charts and electronic records for 115 patients, who underwent OPD-based endometrial aspiration, meeting the inclusion criteria. Patients who did not meet the criteria were excluded from the study. As part of the routine evaluation, samples were collected in OPD, with Pipette (Medgyn) without anesthesia after explaining the procedure, risks involved, and the alternative options. Samples were sent to the laboratory on the same day. Sonography was done in all cases, some in our hospital and others at private clinics. Record of endometrial thickness was not available in all cases as it was not recorded in some sonography reports which were done outside so are not compared here.

Most of our patients [Table 1] were in the 46–50 years' age group (40%) followed closely by 41–45 years' age group (25.2%); hence, the age group between 41 and 50 years comprised to most of our patients (65%). None of the patients underwent endometrial aspiration at <25 years or >65 years. Perimenopausal age group (41–50 years) was the largest in number.

The most common reason for evaluation of endometrium was heavy menstrual bleeding, closely followed by frequent cyclical bleeding and postmenopausal bleeding [Table 2].

Proliferative and secretory endometrium constituted most of the cases [Table 3], closely followed by disordered proliferative and out-of-phase endometrium. Endometrial hyperplasia (both simple and complex) constituted 7 cases (6.08%); all of them were between 48 and 55 years. Of all cases presented with AUB [Table 4] 22 patients underwent hysteroscopy or endometrial biopsy in OT under general anesthesia or paracervical block for inadequate sample or other reasons (suspected polyp due to irregular thickening of endometrium (4), septum (2), other (1).

*Polyp was suspected in four but hysteroscopy could be confirmed in three cases; all of them were very small in size.

Of the patients undergoing hysteroscopy and/or biopsy in OT, most cases were of atrophic endometrium.

This study illustrates that in most cases of AUB, endometrial aspiration done as outpatient procedure with a 3 mm cannula is a feasible and safe option, which yields good endometrial sample for evaluation by the pathologist and convenient to patients also.

No complications were documented while doing this procedure; however, in two cases, the Pipette could not be introduced into the uterine cavity due to stenosis, and these cases were excluded from the study.

DISCUSSION

Although studies have compared hysteroscopic findings with histopathology^[3] with best results are in favor of hysteroscopic directed biopsy, due to its invasive nature with risk of anesthesia, it is generally reserved if office-based evaluation does not reveal satisfactory results. Office-based evaluation^[4] has been well compared with posthysterectomy specimens also with very good sensitivities and specificity.^[2]

Most of the patients in our study were between 40 and 50 years of age, so was the case in few such studies indicating the most common age group affected by this problem^[5-7] with heavy menstrual bleeding being the most common complaint.

In our study, adequate sample was obtained for evaluation in most cases for AUB (86%). Good correlation was obtained in another study conducted by Rachamalla *et al.*^[8] and Patil *et al.*^[9] and Kaur *et al.*^[10] in India as well as in western countries^[11,12] where endometrial aspiration was compared with traditional methods for adequacy of samples.

Inadequate sample rate was 13.9% (16/115) that was mostly seen in cases of atrophic endometrium as the endometrium is very thin and less cellular in these cases. In cases of inadequate sample by endometrial aspiration, only one case was the diagnosis as hyperplastic endometrium.

A possibility of conservative management may be considered in cases where inadequate sample was obtained; however, if the endometrium is thick on sonography or if the clinical suspicion is high, further evaluation must not be delayed.

In three cases, malignancy was diagnosed (2.6%). This is lower as compared to other studies.^[11,13] The difference might be due to low incidence of endometrial malignancy in India as compared to western countries; furthermore, stratification for risk factors increases the chances of detecting this malignancy, which was not done in our study. Inclusion of cutoff values for endometrial thickness by sonography in pre- and postmenopausal women increases the chances of detection of premalignant and malignant endometrial lesion,^[14] while this study being retrospective in nature, in many patients, these data were either not recorded, and in some cases, USG report did not mention the endometrial thickness, so these data were not compared here. Of the malignancy diagnosed, two cases presented

Table 1: Age group distribution

Age group	Numbers
<25 years	None
25-35 years	4 (3.4%)
36-40 years	17 (14.9%)
41-45 years	29 (25.2%)
46-50 years	46 (40%)
51-55 years	11 (9.5%)
56-65 years	8 (6.9%)
>65 years	None
Total	115

Table 2: Distribution according to complaints

Presenting complaints	Number
HMB	46 (40%)
Oligomenorrhoea	5 (4.3%)
Polymenorrhoea	19 (16.5%)
Post-coital bleeding	9 (7.8%)
Post-menopausal bleeding	17 (14.8%)
Irrregular vaginal bleeding	11 (9.6%)
Others (not specified)	8 (6.9%)
Total	115

Table 3: Endometrial patterns on histopathology

Endometrial pattern	Numbers
Proliferative endometrium	27 (23.5%)
Secretory endometrium	21 (18.2%)
Disordered proliferative endometrium	18 (15.6%)
Out of phase endometrium	11 (9.5%)
Chronic endometritis	8 (6.9%)
Atrophic	2 (1.7%)
Simple hyperplasia with atypia	1 (0.8%)
Simple hyperplasia without atypia	5 (4.34%)
Complex hyperplasia with atypia	1 (0.8%)
Complex hyperplasia without atypia	0 (0%)
Malignancy	3 (2.6%)
Gestation related	1 (0.8%)
Others	2 (1.7%)
Inadequate for opinion	16 (13.9%)
Total	115

Table 4: Details of patients undergoing Hysteroscopy and/or biopsy in OT

Pathology	Number
Atrophic endometrium	9
polyp	3*
septum	2
Normal cavity with proliferative or secretory endometrium	4
Normal cavity with hyperplastic endometrium	2
Normal cavity with endometrial calcification from previous D and C	1
Broken IUCD remnant	1
Total	22

with postmenopausal bleeding and were more than 55 years of age while the third case presented with irregular vaginal bleeding and was of 50 years of age.

This retrospective study also suggests that in most patients of AUB <40 years, benign conditions are common, so a trial of progesterone or nonsteroidal anti-inflammatory drugs may be considered after counseling, as the premalignant and malignant lesions are more common in women more than 50 years of age. Individualization of cases with screening for high-risk factors such as obesity, diabetes mellitus, unopposed estrogen use, and chronic anovulation is warranted if this approach is chosen. A prospective study with bigger sample size will help in further characterization of this hypothesis confidently.

In many parts of India including medical colleges, AUB cases are being evaluated by traditional dilatation and curettage or curettage in OT which exposes to the risk of anesthesia and is also time-consuming. This could be due to lack of knowledge about such device, lack of confidence among gynecologists and pathologists for adequacy of sample, or lack of familiarity and confidence in using this device safely in OPD. This may be the scenario in many third world countries. This safe, easy, and effective OPD-based procedure needs to be popularized in all medical colleges and among general gynecologist of India for the timely, cost-effective, evaluation of the AUB. This thin plastic malleable cannula can easily negotiate the uterine cavity without much discomfort to the patients. No complication was found in this study due to the use of this instrument.

CONCLUSION

AUB is a common problem in a large number of women in different age groups; for which they visit a gynecologist. Evaluation of endometrium by OPD-based simple, safe, and effective procedure such as endometrial sampler (Pipelle) or any other method which yields a good amount of tissue for the pathologist to confidently diagnose the endometrial pathology is the need of the hour and should be popularized in all states across India. Although this device is available in most of the big cities, it is not routinely available in all parts of countries. Cost of the different device (ranging from 200/- to more than 475/-) may be another issue though people have used a thin 4 mm Karman's cannula also for this purpose with good results. There is a need to popularize this simple and effective method for endometrial sampling.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. American College of Obstetricians and Gynecologists. ACOG practice bulletin No. 149: Endometrial cancer. *Obstet Gynecol* 2015;125:1006-26.
2. American College of Obstetricians and Gynecologists. ACOG committee opinion no 557: Management of acute abnormal uterine bleeding in nonpregnant reproductive-aged women. *Obstet Gynecol* 2013;121:891-6.
3. Lasmar RB, Dias R, Barrozo PR, Oliveira MA, Coutinho Eda S, da Rosa DB, *et al.* Prevalence of hysteroscopic findings and histological diagnoses in patients with abnormal uterine bleeding. *Fertil Steril* 2008;89:1803-7.
4. Huang GS, Gebb JS, Einstein MH, Shahabi S, Novetsky AP, Goldberg GL, *et al.* Accuracy of preoperative endometrial sampling for the detection of high-grade endometrial tumors. *Am J Obstet Gynecol* 2007;196:243.e1-5.
5. Perween R, Alam SM, Karimi MA, Siddiqui SA. A clinicopathological study of abnormal uterine bleeding in peri and post menopausal age group, with special emphasis on early diagnosis of uterine malignancy. *Int J Contemp Med Res* 2016;3:867-72.
6. Muzaffar M, Akhtar KA, Yasmin S, Mahmood-Ur-Rehman, Iqbal W, Khan MA, *et al.* Menstrual irregularities with excessive blood loss: A clinico-pathological correlation. *J Pak Med Assoc* 2005;55:486-9.
7. Bhatla N. Abnormal and excessive uterine bleeding. Jaypee publications Chapter 38, Jeffcoates, principles of Gynecology, 7th Edn 2008. p. 598-61.
8. Rachamalla L, Bhavani V, Byna P. Histological correlation of pipelle endometrial sampling with dilatation and curettage in abnormal uterine bleeding. *Int J Reprod Contracept Obstet Gynecol* 2015;4:1324-9.
9. Patila P, Venigallaa S, Kumar ML, Rajub K. A comparative evaluation of the three different methods of endometrial sampling in the diagnosis of perimenopausal bleeding. *J Clin Gynecol Obst* 2014;3:133-7.
10. Kaur N, Chahal JS, Bandlish U, Kaul R, Mardi K, Kaur H, *et al.* Correlation between cytological and histopathological examination of the endometrium in abnormal uterine bleeding. *J Cytol* 2014;31:144-8.
11. Tingthanatikul Y, Choktanasiri W, Rochanawutanon M, Weerakeit S. Prevalence and clinical predictors of endometrial hyperplasia in anovulatory women presenting with amenorrhea. *Gynecol Endocrinol* 2006;22:101-5.
12. Nelson AL, Vasquez L, Tabatabai R, Im SS. The yield of endometrial aspiration in women with various risk factors and bleeding abnormalities. *Contracept Reprod Med* 2016;1:9.
13. Timmermans A, Opmeer BC, Khan KS, Bachmann LM, Epstein E, Clark TJ, *et al.* Endometrial thickness measurement for detecting endometrial cancer in women with postmenopausal bleeding: A systematic review and meta-analysis. *Obstet Gynecol* 2010;116:160-7.
14. Kazandi M, Okmen F, Ergenoglu AM, Yeniel AO, Zeybek B, Zekioglu O, *et al.* Comparison of the success of histopathological diagnosis with dilatation-curettage and pipelle endometrial sampling. *J Obstet Gynaecol* 2012;32:790-4.