

Study of endometrium in abnormal uterine bleeding at Patan Hospital, Patan Academy of Health Sciences, Nepal

Laxmi RC

Associate Professor, Department of Obstetrics and Gynaecology; Patan Academy of Health Sciences, Lalitpur, Nepal

ABSTRACT

Introduction: Abnormal uterine bleeding (AUB) is considered as one of the most common and challenging problem presenting to the gynecologist. Establishing a cause of AUB is important, as medical therapy is effective in managing abnormal bleeding in most cases and should be attempted prior to surgical management. Endometrial biopsy is a safe and effective diagnostic step in evaluation of endometrium after ruling out any medical causes. The objective of this study is to evaluate the different histopathological patterns of the endometrial biopsy specimens in women presenting with AUB at Patan Hospital.

Method: A two year retrospective study of AUB covering the year 2068 to 2069. Patients charts were retrieved from the medical record section and reviewed.

Result: The most common age group presenting with AUB was 41–50 years 58(49.1%). Among these patients, normal physiological patterns 62 (52.5%) with secretory endometrium (24.6%), proliferative endometrium 29 (22.9%) and menstrual phase 6 (5.1%) were observed. The commonest pathology irrespective of the age group was disordered proliferative pattern 23 (19.5%). Other causes identified were endocervical polyp 8 (6.8%), hormonal effect 5 (4.2%), atrophic endometrium 5 (4.2%), endometrial carcinomas 5 (4.2%), complications of pregnancy 3 (2.5%), endometrial hyperplasias 3 (2.5%), endometritis 3 (2.5%) and endometrial polyp 1 (0.8%).

Conclusion: Histopathological variations of the endometrium can detect the cause of the disorders taking into account the age and phase of a menstrual cycle. Timely evaluation of AUB by histopathology can be life saving diagnostic tool for early management.

Keywords: AUB, endometrial carcinoma, histopathology.

Keywords: AUB, endometrial carcinoma, histopathology

CORRESPONDENCE

Dr. Laxmi RC

Department of Obstetrics and Gynaecology, Patan Academy of Health Sciences, Lalitpur, Nepal

Email: laxmirc@pahs.edu.np

INTRODUCTION

Regular cyclic menstruation results the choreographed relationship between the endometrium and its regulating factors. Any type of disturbance between the regulatory mechanism of pituitary ovarian axis or pelvic diseases results in abnormal uterine bleeding (AUB).¹

The abnormal uterine bleeding, affects 14-25% of women of reproductive age.^{2,3} Patterns of abnormal uterine bleeding include menorrhagia, metrorrhagia, and menometrorrhagia as well as postmenopausal bleeding.⁴

Since endometrium is the best accessible tissue for histopathological evaluation of uterine bleeding, endometrial sampling is effectively used as the first diagnostic step in AUB, although at times, its interpretation is quite challenging. Histopathological evaluation of endometrium is especially indicated in women over the age of 35 years to rule out pre neoplastic lesions and malignancies. Accurate analysis of endometrial samplings is the key to effective therapy and optimal outcome.

The purpose of this study was to evaluate the pathologies in endometrial biopsy of patients with AUB in our population.

METHOD

The study entailed a retrospective from the register (outpatient and operation room) reviewed of all women for whom a diagnosis of AUB was made at the outpatient department of Obstetrics and Gynecology, Patan Academy of Health Sciences, April 2011 to March 2013. The medical information was retrieved and data entered into a structured form. Age, parity, menstrual complaints were noted and clinical diagnosis with ultrasound report and histopathology reports of endometrial tissue were analyzed. Women receiving cyclical hormones and with thyroid disorders, coagulation disorders were excluded. All specimens of

endometrial biopsy were transported in 10% formalin to the pathology laboratory. Various endometrial patterns were classified as follows: Proliferative, Secretory, Atrophic, chronic endometritis, polyp, hyperplasia and carcinoma. Endometrial Hyperplasia was classified according to World Health Organization (WHO), originally proposed by Kurman and Norris, into simple and complex on the basis of architecture and each was further subdivided into typical and atypical, based on cytology. Analysis was done in the form of percentage and represented as tables..

RESULT

This study includes analysis of data of cases attending gynecology OPD from April 2011 to March 2013. Evaluation of the endometrium revealed various histopathological patterns commonest being physiological. In the present study, the overall occurrence of secretory endometrium was 24.6%. Proliferative endometrium was the second most common normal physiological pattern seen in 22.9%. The various histopathological patterns are shown in Table 1. Five cases (4.2%) harbored malignant pathology while 3 cases (2.5%) had endometrial hyperplasia among which 2 (1.7%) had simple hyperplasia without atypia and 1 (0.8%) had complex hyperplasia with mild atypia. The patients were categorized into six groups based on their age. Age of the patients in our study ranged from 21 years to 80 years with a mean of 45 years. Maximum patients with abnormal uterine bleeding presented in the perimenopausal age group of 41-50 years (49.1%) followed by 31-40 years of age (22.9%), Table 2. Occurrences of endometrial hyperplasia increases in perimenopause, which is of great value as it is a forerunner of carcinoma. Among the 5 endometrial carcinomas, clear cell carcinoma was diagnosed at the age of 79 years and 52 years, moderately differentiated adenocarcinoma at the age of 67 years, well differentiated adenocarcinoma at 32 years of age.

Table 1. Pattern of distribution of histopathology of endometrium in AUB

Type of endometrium	Number	Percentage
Proliferative phase	15	12.7%
Mid proliferative phase	6	5.1%
Late proliferative phase	6	5.1%
Total proliferative phase	27	22.9%
Secretory phase	9	7.6%
Early secretory phase	7	5.9%
Mid secretory phase	2	1.7%
Late secretory phase	11	9.3%
Total secretory phase	29	24.6%

Menstrual phase	6	5.1%
Normal endometrium pattern	62	52.5%
Disordered proliferative phase	23	19.5%
Hormonal effect	5	4.2%
Atrophic endometrium	5	4.2%
Decidua	1	0.8%
Partial H Mole	1	0.8%
Complete H Mole	1	0.8%
Total complication of pregnancy	3	2.5%
Endometritis	3	2.5%
Endometrial polyp	1	0.8%
Endocervical polyp	8	6.8%
Simple hyperplasia without atypia	2	1.7%
Complex hyperplasia with mild atypia	1	0.8%
Total endometrial hyperplasia	3	2.5%
Endometrial carcinomas	5	4.2%

Table 2. Distribution of cases of AUB according to age group

Age group	Number	Percentage
20-30 yrs	7	5.9%
31-40 yrs	27	22.9%
41-50 yrs	58	49.1%
51-60 yrs	16	13.5%
61-70 yrs	7	5.9%
71-80 yrs	3	2.5%

DISCUSSION

Menstrual cycle often becomes irregular due to decreased number of ovarian follicles and increased resistance to gonadotrophic stimulation resulting in low levels of estrogen which cannot keep the normal endometrium growing.⁵ As endometrium is dynamic and hormonally sensitive and responsive tissue, it constantly undergoes changes throughout the reproductive life, therefore is vulnerable for pathological lesions.

The spectrum of proliferation of the endometrium includes disordered growth, carcinomas and intervening stages of hyperplasia. Thus lies the importance of their early detection. Predominant number of cases in this study showed normal physiologic phases. The bleeding in the proliferative phase may be due to an ovulatory cycles and the bleeding in secretory phase may be due to ovulatory dysfunctional uterine bleeding which is characterized by increase in the amount of flow.⁶ Thus this result supports the importance of endometrial biopsy. The sensitivity of endometrial biopsy for the detection of endometrial abnormalities has been reported to be as high as 96%.⁷

A higher incidence of disordered proliferative pattern was found in our study as compared to Cho Nam-Hoon et al.⁸ It denotes an endometrial appearance that is hyperplastic but without an increase in endometrial volume. It also refers to a proliferative phase endometrium that does not

seem appropriate for any one time in the menstrual cycle, but is not abnormal enough to be considered hyperplastic. Disordered proliferative pattern resembles a simple hyperplasia, but the process is focal rather than diffuse. We observed five cases of atrophic endometrium and all patients were in the postmenopausal age group. Anovulation in these women manifests as atrophic or inactive endometrium. Mechanism of bleeding due to atrophic endometrium in old age is stated in different studies as sclerotic degeneration of vessel wall or local abnormal haemostatic mechanism.

In this study, endometrial polyp was least common (0.8%) which is much lower as compared to 10% in study by Aslam et al.⁹

The commonest age group presenting with excessive bleeding in our study was 41–50 years (49.1%), so was the case in few such studies indicating the most common age group affected by this problem.^{10,11} Similar results were obtained in the study by Saraswathi D., et al.¹² The reason for increased incidence of abnormal uterine bleeding in this age group (41–50 years) may be due to the fact that these patients are in their climacteric period. As women approach menopause, cycles shorten and often become intermittently an ovulatory due to a decline in the number of ovarian follicles and the estradiol level. We had only three patients with AUB in the age group of 71 to 80 years and one of them had endometrial

carcinomas. A study done by Dangal, et al. in Nepal documented a lower incidence of endometrial cancer in Nepalese woman attributing it to the practice of early childbearing and multiparity.¹³

Significant morbidity or mortality can occur if endometrial hyperplasia is untreated with progression to malignancy. In the original study by Kurman, et al., cited by Chiang JW, simple hyperplasia was associated with a 1% rate of progression to cancer, 3% rate of progression to complex hyperplasia, and 8% rate of progression to simple atypical hyperplasia, whereas complex atypical hyperplasia had a 29% rate of progression to cancer.¹⁴

Complications of pregnancy (2.5%) were common in the age group 21-30 years. This can be explained by the fact that most women conceive at this age; hence vaginal bleeding should be considered a complication of pregnancy until proven otherwise. Patient's presenting in this age group with abnormal uterine bleeding should be investigated and evaluated for pregnancy.

CONCLUSION

In the present era, where endometrial sampling has become much easier, safer and cheaper, histopathological examination of endometrial biopsy is a major diagnostic tool in evaluation of AUB and a specific diagnosis could help plan for successful management of AUB.

REFERENCES

- Schorge, Schaffer, et. al. Abnormal uterine bleeding. In: Williams gynaecology. 1st ed. New York: McGrawhill; 2008: p174-96.
- Sajeetha KR, Anuradha M. Endometrial patterns in abnormal uterine bleeding: a retrospective study. *Int J Reprod Contracept Obstet Gynecol.* 2017;6(11):4966-70.
- Fraser IS, Langham S, Hochgraeber K. Health related quality of life and economic burden of AUB. *Expert Rev Obstet Gynecol.* 2009;4:179-89.
- Royal College of Obstetricians & Gynaecologists. Heavy menstrual bleeding (NICE clinical guideline 44) [internet]. National Institute of Health and Clinical Excellence. 2007 Jan 1.
- Fraser IS, Critchley HO, Munro MG. Abnormal uterine bleeding: getting our terminology straight. *Curr Opin Obstet Gynecol.* 2007;19(6):591-5.
- Sarawat A, Roohi M. Histological diagnosis by conventional dilatation and curettage. *Professional Med J.* 2011;18(4):587-91.
- Doraiswami S, Johnson T, Rao S, Rajkumar A, Vijayaraghavan J, Panicker VK. Study of endometrial pathology in abnormal uterine bleeding. *J Obstet Gynecol India.* 2011;61(4):426-30.
- Litta P, Merlin F, Saccardi C, et al. Role of hysteroscopy with endometrial biopsy to rule out endometrial cancer in post menopausal women with abnormal uterine bleeding. *Maturitas.* 2005;50:117-23.
- Mutter GL, Ince TA. Tumors of the female genital tract: Endometrium. In: Fletcher CDM, (editor) *Diagnostic histopathology of tumors.* 3rd ed. Edinburgh: Churchill Livingstone; 2007. p 652-71.
- Aslam M, Ijaz L, Tariq S, Shafqat K, Meher-un-Nisa, Ashraf R, et al. Comparison of transvaginal sonography and saline contrast sonohysterography in women with abnormal uterine bleeding: correlation with hysteroscopy and histopathology. *Int J Health Sci (Qassim).* 2007;1(1):17-24.
- 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.
- Muzaffar M, Akhtar KA, Yasmin S, Mahmood-Ur-Rehman, Iqbal W, Khan MA. Menstrual irregularities with excessive blood loss: A clinico-pathological correlation. *J Pak Med Assoc.* 2005;55(11):486-9
- Bhatla N. Abnormal and excessive uterine bleeding (Chapter 38). In: Jeffcoates, principles of Gynecology. 7th Ed. New Delhi: Jaypee Publications; 2008. p598-61.
- Saraswathi D, Johnson T, Rao S, Rajkumar A, Vijayaraghavan J, Panicker VK. Study of endometrial pathology in abnormal uterine bleeding. *The Journal of Obstetrics and Gynecology of India.* 2011;61(4):426-30.