



ORIGINAL RESEARCH PAPER

Pathology

Endometrial Biopsy in Patients with Abnormal Uterine Bleeding: A Retrospective Study of Disease spectrum in Bihar, India

KEY WORDS: AUB secretary endometrium POC

Rashmi Singh	Assistant Professor, Department of Pathology, Patna Medical College and Hospital, Patna, Bihar, India
Vijay Sagar	Tutor, Department of Pathology, Anugraha Narayan Magadh Medical College and Hospital, Gaya, Bihar, India
Priyanka Singh	Senior Resident, Department of obstetrics and gynecology, Vardhman Institute of Medical Sciences Pawapuri, Bihar, India

ABSTRACT

Background: Abnormal Uterine Bleeding (AUB) is one of the commonest presenting complaints with which a patient present in Gynecology OPD **Objective:** To exclude a local intrauterine lesion as a cause of bleeding and to obtain endometrium for study of its hormone responses. **Methods:** This retrospective study was carried out in a tertiary teaching hospital in Bihar in association with a few local gynecological clinics and diagnostic centers. **Results:** Maximum number of cases of AUB were seen in reproductive age group (105 cases, 66.03%) among which the most common endometrial changes were secretory endometrium (38 cases, 23.9 %), closely followed by proliferative endometrium (30 cases, 18.86 %). Products of conception was also not an uncommon finding in this age group (28 cases, 17.61 %). Minimum number of cases of AUB were seen in menopausal age group.

Introduction

Normal menstruation is defined as "the bleeding from secretory endometrium associated with an ovulatory cycle, not exceeding a length of five days". Any bleeding not fulfilling these criteria is referred to as Abnormal Uterine Bleeding [1]. Abnormal Uterine Bleeding (AUB) is one of the commonest presenting complaints with which a patient presents in Gynecology OPD. It is a symptom and not a disease [2]. An accurate diagnosis of endometrial pathology is an essential prerequisite to formulation of treatment strategy. Apart from hematological, endocrine & radiological investigations, endometrial sampling and histopathology form an important fulcrum of diagnosis, since endometrium is the best accessible tissue for Histopathology evaluation for uterine bleeding. Hysterectomy is associated with high rate of morbidity and mortality, more so in a poor state like Bihar with major accessibility and financial constraints. So it becomes imperative to have a data base which helps in understanding the spectrum of endometrial pathologies common in the local population. This study aims to evaluate endometrial histopathology in AUB with respect to different age groups and thus help identify age wise prevalent medical cases so that minimally invasive age and disease related management protocols can be devised, thus obviating the need for needless hysterectomies.

Literature Survey

AUB may be categorized into two broad categories- the first is due to organic cause, the second is so called dysfunctional uterine bleeding caused usually by anovulation or oligo-ovulation [2]. DUB occurs most commonly at the extreme of reproductive age (20% of cases occur in adolescents and 40% in patient over age of 40 years [2]. Several methods are used for endometrial sampling among which dilatation and curettage is considered to be a method of choice [3]. The sensitivity of endometrial biopsy for the detection of endometrial abnormalities has been reported to be as high as 96%. [4,5] AUB has remained one of the most frequent indications for hysterectomies in developing countries but 40 % of cases were not associated with any definitive organic pathology [6].

Methodology

This study was carried out in a tertiary teaching hospital in Bihar in association with a few local gynecological clinics and diagnostic centers. A total of 159 cases were studied from January 2015 to June 2016. All endometrial curettage & Biopsy specimens and total hysterectomy specimen were studied. The requisition forms of all were analyzed for personal details, clinical history and the type of specimen biopsied. Cases were categorized into reproductive, perimenopausal and postmenopausal age groups. Reproductive age was considered from puberty to perimenopausal age (approx. 12 to 39 years), Perimenopausal age was around menopause

(approx. 40 to 50 years). Post menopausal group was defined as permanent cessation of menstruation confirmed after 12 consecutive months of amenorrhea (approx. more than 50 years) [7]. All specimens sent for biopsy were fixed in 10 percent buffered formalin solution and processed in tissue processors. Paraffin embedded blocks were generated and sections of 4 to 5 microns using rotatory microtom were obtained and stained with hematoxylin and eosin.

Result & Discussion:

A total of 159 numbers of endometrial samples were received during the one and half years period. Maximum numbers of cases (105/159) belonged to the reproductive age group (18-39 years). 40 cases (out of 159) were of perimenopausal age group (40-50 years) and 14 cases were of menopausal age group (>51 years). The predominant histopathological pattern was secretory endometrium (46/159 cases, 28.93 %). Only slightly less number of cases (41/159, 25.79%) were of proliferative endometrium. This was followed by AUB due to products of conception (30/159 cases, 18.87 %). The next most common endometrial pathology was simple adenomatous hyperplasia (14/159, 8.81 %). 7 cases of simple cystic hyperplasia were observed (4.40%). Also there were 6 cases of cystic atrophy of endometrium (3.77 %), 3 cases of excessive exogenous hormonal effect (1.89%), 2 cases of H. mole (1.26%), 4 cases of atypical adenomatous hyperplasia (2.51%) and 2 cases of Endometrial carcinoma were (1.26%) observed. One case each (0.63%) of Endometrial polyp and endometritis were seen. 2 cases (1.26%) of Autolysed endometrium were received and could not be interpreted.

Details of cases presenting with AUB from Jan 2015 to June 2016

Age wise distribution of cases of AUB

Reproductive age group (18-39 years)	105 cases
Peri menopausal age group (40-50 years)	40 cases
Menopausal age group (>51 years)	14 cases
Total no. of cases AUB	159 cases

Age wise Distribution of Endometrial Causes of AUB

Histopathological findings	Reproductive age group (18-39 years)	Perimenopausal age group (40-50 years)	Menopausal age group (>51 years)
Secretory endometrium	38 (23.90%)	8 (5.03%)	-

Proliferative endometrium	30 (18.86%)	11 (6.92%)	-
Product of conception	28 (17.61)	02 (1.26%)	-
Endometritis	01 (0.63%)	-	-
H. mole	02 (1.26%)	-	-
Endometrial polyp	01 (0.63%)	-	-
Excessive exogenous hormonal effect	01 (0.63%)	02 (1.26%)	-
Simple adenomatous hyperplasia of endometrium	04 (2.51%)	09 (5.66%)	01 (0.63%)
Simple cystic hyperplasia of endometrium	-	04 (2.51%)	03 (1.89%)
Atypical adenomatous hyperplasia of endometrium	-	01 (0.63%)	03 (1.89%)
Cystic atrophy of endometrium	-	02 (1.26%)	04 (2.51%)
Endometrial carcinoma	-	-	02 (1.26%)
Autolysed endometrium	-	01 (0.63%)	01 (0.63%)
Total	105 (66.03%)	40 (25.16%)	14 (8.81%)

Differential Histopathological Pattern of Endometrial Tissue

Maximum numbers of cases (105/159, 66.03%) belonged to the reproductive age group (18-39 years). This correlates with the observations of Forae GD et al^[6] and is slightly higher than in Abid et al^[7]. The predominant histopathological finding was secretory endometrium (46/159 cases, 28.93 %). Only slightly less number of cases (41/159, 25.79%) were of proliferative endometrium. This was followed by AUB due to products of conception (30/159 cases, 18.87 %). This is in agreement with Jairaj puri et al^[9] where secretory endometrium (28.9%) was the most common histopathological finding followed by proliferative endometrium (24.9%). Increased incidence of products of conception in reproductive age group (22.5%) was also reported by Forae GD et al^[8]. Doraiswami et al also noted that the complication of pregnancy were common in the age group of 21-30^[10]. The probable cause of the peak incidence of AUB in reproductive age group in this study could be due to low socio- economic and literacy level in this area. Total number of cases of endometrial hyperplasia in peri and post menopausal age group were 21 out of 159 cases (13.21%). This compares with the study of Muzaffar et al who reported 18.3 % of such cases.^[11]

Simple adenomatous hyperplasia was the most common subtype (10/21 cases 47.62%) in our study. Atypical adenomatous hyperplasia was observed in (4/21 cases 19.05%) and formed 0.63 % of all endometrial pathologies in perimenopausal age group and 1.89% of patients in menopausal age group. Simple cystic hyperplasia was seen in 2.51 % of perimenopausal age group and 1.89 % of menopausal age group. The increased incidence of endometrial hyperplasia in patients beyond 40 yrs. of age is probably due to increase in occurrence of anovulatory cycles with age. Atrophy of endometrium was observed in (3.77 %) of cases and 66.67% of these cases occurred in postmenopausal age groups. This correlated closely with the study of Forae GD et al^[8]. In this study only 0.63% of all cases showed endometritis while 1.26 % showed H. mole and only 1 cases (0.63%) had endometrial polyp. Only 2 cases (1.26%) of endometrial carcinoma, both in post menopausal age group were seen. This correlate with 2% of reported by Abid et al^[7] and 1.7% of Forae GD et al^[8]. But this is quite low when compared to (4.4%) of such cases as reported by Saraswathi et al^[12]. The low incidence of endometrial carcinoma in our study could be due to cultural and socioeconomic causes associated with early marriage and child

bearing, multiparity and low incidence of contraceptive use.

Histopathological findings	No. of patients (159)	Percentage
Secretory endometrium	46	28.93
Proliferative endometrium	41	25.79
Products of conception	30	18.87
Endometritis	01	0.63
H. mole	02	1.26
Endometrial polyp	01	0.63
Excessive exogenous hormonal effect	03	1.89
Simple adenomatous hyperplasia of endometrium	14	8.8
Simple cystic hyperplasia of endometrium	07	4.40
Atypical adenomatous hyperplasia of endometrium	04	2.51
Cystic atrophy of endometrium	06	3.77
Endometrial carcinoma	02	1.26
Autolysed endometrium	02	1.26

Conclusion

Through this study, an observation was made that the aggressiveness of endometrial pathologies increases with increasing age. Causes of AUB that are easily preventable by increasing social and health awareness and can be medically treated with minimum surgical intervention are more common in the reproductive age group and form the bulk of AUB cases. Cases of AUB that are aggressive and require complicated medical and surgical interventions usually occur in the late perimenopausal and postmenopausal age groups. Though a more detailed analysis with incorporation of more parameters is required, the scope of this study is to provide a working database for age wise distribution of endometrial pathologies in this geographical area.

Future Scope

An idea of the common prevalence of AUB in the local population can help in modification of treatment with more conservative approaches. Also primary health centers and ANM personnel can be involved in increasing health awareness and literacy with the help of these data and in formulation of screening programs of health welfare. Also a case can be made for devising screening programs in the early perimenopausal period so that precursor lesions could be detected early and managed, reducing the morbidity and mortality associated with them.

References

- Rosai J. Female reproductive system – Uterus – corpus. In: Rosai J Ed. Rosai and ackerman’s surgical pathology 9th ed. New Delhi: Eelseiver, A division of Reed Elsevier, India Private limited; 2004(vol 2). 1569-635.
- Jeffcoat’s Principal of gynecology 7th international edition P 598-599,604.
- Mazur MT, Kurman RJ: Methods of endometrial evaluation . In diagnosis of endometrial biopsy and curettage .Berlin: Springer 2005:1-6
- Albers JR, Hull SK, Wesley RM. Abnormal uterine bleeding. Am Fam Phys. 2004;69:1915–26.
- Litta P, Bartolucci C, Saccardi C, Codroma A, Fabris A, Borgato S, Conte L:Atypical endometrial lesions: hysteroscopic resection as an alternative to hysterectomy. Eur J GynaecolOncol 2013, 34:51–53.
- Heavy menstrual bleeding :NICE clinical Guideline , No44; national collaborating center for women’s and children’s health, London:RCON Pren:2007:24-27.
- Abid et al. Clinical pattern and spectrum of endometrial pathologies in patients with abnormal uterine bleeding in Pakistan: need to adopt a more conservative approach to treatment.BMC women’s health 2014, 14:132.
- Forae GD, Aligbe JV, Histopathology pattern of endometrial lesion in patient with abnormal uterine bleeding in a cosmopolitan population. J Basic clinical pepert, Sci 2013;2:10-4
- Jairajpuri ZS, Rana S, Getley S. Atypical uterine bleeding- Histopathological audit of endometrium – A study of 638 cases Al amn J med. Sc. 2013;6:21-2
- Doraiswami et al : Study of Endometrial Pathology in Abnormal Uterine Bleeding. The Journal of Obstetrics and Gynecology of India (July–August 2011) 61(4):426–430.
- Muzaffar M, Akhtar KA, Yasmeen S, Rehman MU, Iqbal W, Khan MA. Menstrual irregularities with excessive blood loss:a clinic-pathological correlation. The Journal of Pakistan Medical Association. 2005; 55(11):486-89.
- Doraiswami Saraswathi,Johnson Thanka, RaoShalin ee,RajkumarA arthi,Vijayar agh avan Jaya ,PanickerVinod Kumar: Study of Endometrial Pathology in Abnormal Uterine Bleeding; The Journal of Obstetrics and Gynecology of India (July–August 2011) 61(4):426–430