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Study Of "Histopathological Pattern Of Endometrium In Abnormal Uterine Bleeding In The Age Group 40-60 Years" –A Study Of 500 Cases.

Dr. Junu Devi[1], Dr. Naima Aziz[2]
[1]Assistant Professor
[2]Assistant Professor
Department of Pathology, Gauhati Medical College & Hospital, Guwahati, Assam, India
drjdevipath@gmail.com [1] , naima_aziz@rediffmail.com[2]

Abstract:

Background: AUB is one of the most common problem in life of an adult female. Evaluation of histopathological pattern of endometrium is essential for appropriate management of patient with abnormal uterine bleeding. Objective –The study was carried out to evaluate different clinical presentation and to determine the histopathological pattern of Endometrium in woman with AUB in the age group of 40-60 years.

Material & Methods: Analysis of 500 patients was done during a period of one year from May 2013 to April 2014. Routine paraffin sections and Haematoxylin and eosin stain has been used. Histology is gold standard for diagnosis of AUB.

Keywords:Endometrium,abnormal uterine bleeding

I. Introduction:

Abnormal uterine bleeding (AUB) a term used to describe any types of bleeding that does not fall within the normal ranges for amount, frequency, duration and cyclicity. The most common presentation are menorrhagia, polymenorrhoea, metrorrhazia and instrumental bleeding (1). Although abnormal uterine bleeding can be caused by ill defined organic pathologic conditions, such as chronic endometritis, endometrial polyps, endometrial hyperplasia, submucosal lieomyoma or endometrial neoplasm the largest single group encompasses functional disturbances referred to as dysfunctional uterine bleeding (2). It accounts for 33% of outpatient referrals, (in gynae OPD) excluding 69% of referrals in perimenopausal and postmenopausal age group (3). In women >40 years and certainly in menopausal patient, it mandates evaluation to confirm benign nature of the problem, by ruling out endometrial carcinoma, so that medical treatment or conservative surgery can be offered and unnecessary radical surgery can be avoided (3,4)

Adenocarcinoma of endometrun is often proceeded by proliferative precursor lesions "endometrial hyperplasia". Thus, early accurate diagnosis and proper treatment of endometrial hyperplastic lesions are essential to prevent progress to endometrial carcinoma and preclude unwarranted hysterectomy without definitive diagnosis. (2,5)

Until the pathology of underlying causes is accurately diagnosed, correct method of treatment are impossible (2).

Endometrial biopsy or curettage could be a safe and effective diagnostic step in evaluation of abnormal uterine bleeding after ruling out medical causes (6). This study was done to evaluate histopathology of endometrium and to observe the frequency of various pathology in age group of 40-60 yrs. presenting with AUB.

II. Materials and Methods:

This is a prospective study done on the patient presenting with AUB from May, 2013 to April, 2014 in the department of pathology in collaboration with Department of O & G of GMCH. Guwahati Assam. The study material included a total number of 500 cases in the age group 40-60 years consisting of endometrial sample (endometrial curettage biopsy and hysterectomy specimens)

Patient with isolated endometrial causes of AUB were included for the study and those with leiomyoma,cervical & vaginal pathology were excluded. All specimens were transported in 10% formalin to the pathology laboratory. The gross architecture was recorded with total submission of endometrial samples and representative bits were taken from the hysterectomy specimens. After fixation in 10% formalin for 12-24 hours tissues were processed & embedded in paraffin, and 3-4µ thick sections were made. Sections were stained with haematoxylin and eosin stain. Microscopic examination was done by two pathologists, individually to reduce observer bias. The data were collected and analysed. Analysis was done in the form of percentage and represented as tables and figures where necessary.

III. Result-

A total of 500 patients in the age group 40-60 yrs were included in this study. These are categorized as perimenopausal (40-55 yrs.) and postmenopausal (>55 yrs.) group. Of these 85% are in 41-55yrs age group and 15% are in >55 yrs of age group. Of these (20.4%) are grand multipara, 61.4% are multipara and 11.4% are of low parity. The main presenting complaint was menorrhagia (20.39%) followed by metrorrhagia(20.39%), polymenorrhoea (6.65%) and oligomenorhoea 1.93% (table I)

For 36.26% (169) cases dilatation and curettage was the procedure and in 63.73% (297) cases hysterectomy was done. In this study hysterectomy specimen were more. It may be because of the age group we have selected for our study. In this age group most women completed their family.

In our study out of 500 cases of AUB 70.4%(352) were due to non organic causes, 22.8%(11.4) organic causes and 6.8% (34) specimens wre inadequate for diagnosis, table II.

Table-I: Pattern of Bleeding

Sl. No.	Pattern of bleeding	No of Cases	Percentage
1.	Menorrhagia	321	68.88%
2.	Metrorrhagia	95	20.39%
3.	Polymenorrhoea	31	6.65%
4.	Oligomenorrhoea	09	1.93%
5.	Post menopausal bleeding	10	2.15%
		Total 466	100%

Table II: D/D of Abnormal uterine bleeding.

Sl.no.	Cases	No. of Patient		Percentage	
1.	Non Orgnic cause	40-55 yr	>55 yr	Total	%
		293	59	352	70.4

	*(DUB)				
2.	Organic Cause	103	11	114	22.8
3.	Inadequate Biopsy	29	5	34	6.8
	Total	425	75	500	100 %

* Dysfunctional Uterine Bleeding (DUB)

Both non organic causes and organic causes are more common in perimenoposal women (40-55 yrs.)

Table III Abnormal uterine bleeding due to non organic causes (DUB)

Sl. No.	Histologic Pattern	No. of Cases		Percentage	
1.	Proliferati Endometum.	40-55 yr	>55 yr	Total	%
		127	0	127	36.08
2.	Secretory Endometrim	23	0	23	6.53
3.	Atrophic Endometrim	124	57	181	51.42
4.	Disordered Proliferative Endometrim	17	1	18	5.11
6.	Hormonal Imbalance	2	1	3	0.85
		293	59	352	

In non organic causes, in 40-55yrs age group most common type of endometrial pattern is proliferative endometrium and is >55yrs age group most common type of histology pattern of endometrium is atrophic endometrium. In overall atrophic endometrium is most commonly encountered endometrial pattern in 40-60 yr age group.

Table IV : Abnormal Uterine Bleeding due to Organic Causes

Sl. No.	Cases	No. of Patient		Percentage	
1.	Endometrial Polyps	40-55 yr	>	Total	%
		09	0	11	9.65
2.	Endometritis	05	1	6	5.26
3.	Endometrial Hyperplasia	88	6	94	82.45
4.	Endometrial carcinoma ……	1	2	3	2.63
	Total	103	1	114	

Endometrial hyperplasia is more common in the perimenopausal women 88 cases (77.19%) In post

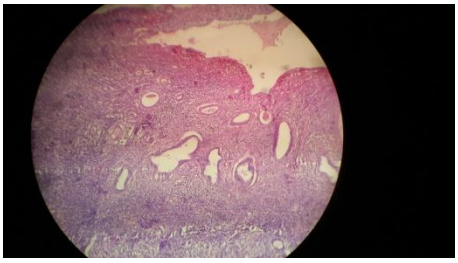
menopausal women we got only 6 cases (5.26%) with endometrial hyperplasia. We got only 3 cases of endometrial carcinoma 2 of which are in the postmenopausal age group and 1 in perimenopausal age group. So endometrial carcinoma is more common in postmenopausal age .Overall among organic causes endometrial hyperplasia is most commonly encountered endometrial pattern in 40-60 yrs age group.

Table –V: Different types of endometrial hyperplasia…….

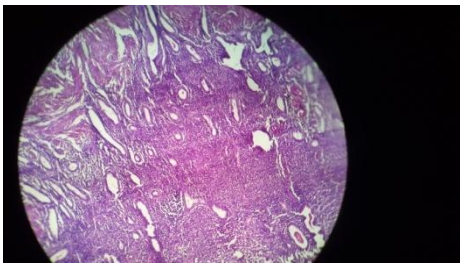
HPE	No. of Cases			
	40-55yrs	>50yrs	Total	%
Simple	78	2	80	16%
Complex	8	1	09	1.8%
Atypical	2	3	05	1.0%
Total	88	06	94	18.8%

Simple. Endometrial hyperplasia is the most common type of hyperplasia commonly found in perimenopausal woman, followed by complex hyperplasia which is much less common that simple hyperplasia..We got 5 cases of atypical hyperplasia of which 2 are in 40-55yrs age group & 3 cases >55yrs age group.

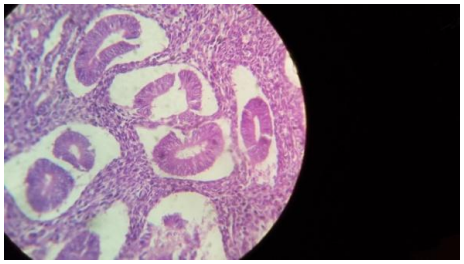
Therefore it has been noted that atypical endometrial hyperplasia and endometrial adenocarcinoma are more common in post menopausal women.



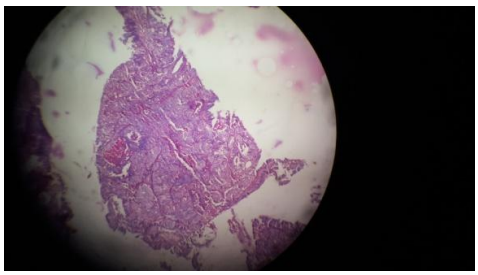
Photomicrograph of Atrophic Endometrium (HE stain, x 100)



Photomicrograph of Proliferative Endometrium (HE stain, x 100)



Photomicrograph of Simple Endometrial Hyperplasia (HE stain, x 400)



Photomicrograph of Endometrial Carcinoma (HE stain, x 100)

Discussion –Abnormal uterine bleeding is defined as any bleeding from uterus other than menstrual bleeding. Since long it has been classified as abnormal uterine bleeding secondary to organic pathology or dysfunctional uterine bleeding.(3)

The present study comprised of 500 cases of endometrial biopsies of woman of 40-60 years age received in our department. Relevant clinical data were collected. The reason for selecting this age group is that women of this age group are in their climacteric period and organic causes are common in this age group.. In the present study, the maximum incidence of AUB was in the 41-55 yrs age range. The incidence of AUB in >55 yrs of age was lower as compared to those between 41-

55 yrs. Our study and other studies have found maximum incidence of AUB in the perimenopausal age group (1,7,8,9,10) As women approach menopause, cycles shorten and often become intermittently anovulatory due to decline in the number of ovarian follicles and fluctuation in the estradiol level(17.)

Our study and other studies found menorrhagia as the most common complaint (1) Most of our patients were in the multiparily category. Most of the studies reported higher incidence of AUB with increase in parity (1,11,12)

In our study most of the cases (352) 70.4% were of non organic causes and (114) 22.4% cases were organic origin. Rupal P. Mehta et al also found similar type of findings (13).

Among the non organic causes of endometrial pattern in perimenopausal women , most common pattern was the proliferative endometrium (36.08). The bleedings in the proliferative phase may be due to onovulatory cycle. This findings is similar to Vijay Kumar Bodal et al (14) and Sahid Khan ,Sadia Hameed and Aneela Umber(3)

Atrophic Endometrium is the second most common findings in perimenopausal and most common findings in postmenopausal women respectively. Over all (both post & perimenopausal women) commonly encountered endometrium is Atrophic Endometrium. Pattern observed in 51.42% cases in our study which is much higher in comparison to other studies. Other reports it as 3%, 5%, 8%, 9.67% and 12% (3,15,16)

It is because of the age group we selected (40-60 yrs) in our study. The exact cause of bleeding from the atrophic endometrium is not known. It is postulated to be due to anatomic vascular variations or local abnormal haemostatic mechanisms. Their walled veins, superficial to the expanding cystic glands make the vessel vulnerable to injury.

Secretory phase endometrium was found in 6.53% cases, which is much lower than that reported by others (38.4%, 37.6%) (3,15).

This is again due to the age group we have selected for our study (peri & post menopausal women)

Bleeding in the Secretory phase is due to adulatory dysfunctional uterine bleeding (4)

We got 5.11% cases with disordered proliferative endometrium. This pattern lies at one end of the spectrum of proliferative lesions of the endometrium that includes carcinoma at the other end with intervening stages of hyperplasia. The term "Disordered proliferative endometrium has been used in a number of ways and is somewhat difficult to define (17) It denotes an endometrial appearance that is hyperplasic but without an increase in endometrial volume (17). 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 patterns resembles a simple hyperplasia, but the process is focal rather than diffuse.

Among the organic causes endometrial hyperplasia is the most common pathology we have encountered. Endometrial hyperplasia was observed in 82.45% of cases. K.Sajtha et al (1) found it to be 56.4% which is lower than that of our findings it may be again because of the age group we have selected in our study. This is the high risk group for endometrial hyperplasia and endometrial carcinoma. Identification of endometrial hyperplasia is important because they are thought to be precursors of endometrial carcinoma.

The incidence of endometrial polyps in our study is 9.65%. An incidence of 9.8%, 10%, 12%, 20% was reported by Mencalgia,. Anuradha Panda, Acharya Veena and Jyotsana which is comparable to our study (3,16)

Endometritis was found in 5.26% of cases. It is almost similar to the study done by other author i.e. 3.28% and 7% respectively. (3)

Among the endometrial hyperplasia simple cystic hyperplasia is the most commonly encountered endometrial hyperplasia. We found 16% cases of simple endometrial hyperplasia which is almost similar to the study done by Sheetal et all (3,15) we got 1.8% cases of complex hyperplasia and 1% cases of atypical endometrial hyperplasia which is again comparable to the study done by Sheetal et all (3, 15)

Endometrial carcinoma was reported in 2.63% of cases which is similar to the other author 2% and 3.3% respectively. (3,15)

Conclusion- Endometrium with no significant pathology was seen in most of the cases.Anovulatory bleeding was common in the perimenopausal woman. Among organic causes, incidence of endometrial hyperplasia without and with atypia is most common pathology in perimenopausal woman and malignancy is particularly common in post menopausal woman.

Since endometrial hyperplasia is a precursor of endometrial carcinoma hence histopathological examination should be done generously in woman presenting with AUB especially after the age of 40 years to rule out malignant pathology.

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