Clinicopathological correlation in postmenopausal women with endometrial hyperplasia diagnosed on ultrasonography- a hospital based study

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Abstract:

Background: Postmenopausal bleeding (PMB) is the most common reason for referral to gynecological rapid access clinics. Towards an ageing, increasingly obese population, we are likely to see a rise in estrogen dependent endometrial pathology, including endometrial cancer, so clinicians need to be familiar with the evidence based and recommendations for investigation and diagnosis. Objective of the present study was to study the symptoms and signs associated with endometrial hyperplasia among postmenopausal women

Methods: The present observational descriptive institution-based study, cross sectional was conducted in the Department of Obstetrics &Gynecology, Eden Hospital, Medical College & Hospital, Kolkata, West Bengal, India between January 2020 and June 2021. All postmenopausal women with endometrial hyperplasia with endometrial hyperplasia with endometrial thickness more than or equal to 4.0 mm diagnosed by ultrasonography were included in the study fulfilling the requisite criteria. Statistical data were analysed by using Microsoft Excel and SPSS V.27 software.

Results: In our study, 16 (16.3%) patients were ≤50 years of age, 57 (58.2%) patients were 51-60 years of age. Prime para was 73 (74.5%) and multi para was 25 (25.5%). In study, 45 (45.9%) patients had heavy bleeding. In our study, 33 (33.7%) patients had spotting. In our study, 13 (13.3%) patients had post coital bleeding. In our study, 32 (32.7%) patients were asymptomatic. In our study, 30 (30.6%) patients had DM, 4 (4.1%) patients had DM & HTN, 1 (1.0%) patients had DM, HTN & obesity, 16 (16.3%) patients had HTN, 23 (23.5%) patients had History of Chronic anovulation. Mean Age (mean±s.d.) of patients was 57.1633± 5.7825. Mean Year since last child birth (mean±s.d.) of patients was 29.0000± 3.1492. Mean Age at menopause (mean±s.d.) of patients was 51.0204± 2.2198. Mean Duration of menopause (mean±s.d.) of patients was 6.1429± 4.9948. Mean Endometrial Thickness (mean±s.d.) of patients was 6.9398± 1.4398. In Endometrial Polyp HPE, 4 (20.0%) patients were Asymptomatic. In Hyperplasia with Atypia HPE, 15 (39.5%) patients were Asymptomatic. In Endometrial Polyp HPE, 6 (30.0%) patients had DM, 1 (5.0%) patients had DM & HTN, 4 (20.0%) patients had HTN.

Conclusion : Clinico-pathological correlation of ultrasound data in post-menopausal patients with endometrial hyperplasia allows for a clear definition of the treatment policy, avoidance of relapse, treatment optimization and early diagnosis and observation of such patients.

Keywords: Endometrial hyperplasia, postmenopausal women, ultrasonography

Introduction:

During the past few decades, the number of postmenopausal women has increased with higherlife expectancy. In the UK the average age for a womanto reachthe menopause is 52 years. We can anticipate approx 40% of Britons beingobese by2025 and that this will grow to 50 % ofadult womenbeing obese by 2050. In tandem with these changes in demand, we are likely to see a rise in estrogen-dependent endometrialpathology,includingendometrialcancer andits precursors.[1,2] It has traditionallybeensuggested that endometrioid endometrialadenocarcinoma is preceded byendometrial hyperplasia(EH).The figure most often cited in the literature for progression of atypical adenomatous hyperplasiatocarcinomaswas 30%at 10years.[3]

Precancerous lesions of the endometrium originate focally as a result of clonal outgrowth of genetically mutated glands which have a different cytologic and architectural pattern relative to the background. Their morphology is discontinuous fromthat ofthe background endometrium itself, and can only be recognized through a combination of newly definedhistologic features whichdefinethe entityofendometrialintraepithelialneoplasia(EIN).[4] EINisnot synonymouswith carcinoma but indicates alesion that may regress, persist, or progress to invasion.
ApproximatelyonethirdofwomendiagnosedwithEIN will have aconcurrentcarcinomadiagnosed within the first year, and the long term cancer risk is 45 times increased beyond benign endometrial hyperplasia.[5,6] Morphologically, an altered relationship between glands and stroma distinguises carcinoma from EIN. Even whenpresent inthe patient,myoinvasion israrelyevident in anendometrialcurettageor biopsy, whichrarely succeeds in sampling the underlying myometrium. For this reason, distinction between EIN and adenocarcinoma most commonly be performed in isolated endometrial samples devoid of myometrium.Within the endometrial compartment itself, examination of stromal quality and character in the region of a glandular lesionis nota reliable indicator ofwhetherthe stroma has beeninvaded.EIN lesionsare made upof aggregates of individual glands which may have some branchpoints, but lack the complex folded sheets that producea maze ofinterconnected lumensorVilloglandulararchitecture insomecarcinomas. Thearchitectural pattern of the glands is an indicator of an altered interaction between glands and stroma. Functionalchanges whichcorrespond to malignant behavior in vivo include loss of anchorage dependent growth. The histologic equivalent of this feature is growth of epithelial cells without a requirement for contact with a basement membrane.Thisisevidenthistologicallybyareasofsoli depithelialgrowthwithoutlumenformationora cribriformpatternofmultiplegland lumens withinasingle gland. Thepresenceof myoinvasion, oranyoneof the abovedescribedpatterns(solid,cribriform,Villoglandu lar,maze-like),is diagnosticofadenocarcinoma.[7] Therefore, it was decided that an observational descriptive institution-based study was to be done to study the symptoms and signs associated with endometrial hyperplasia among postmenopausal women attending the G&O OPD and admitting indoor in Medical College & Hospital Kolkata, West Bengal, India.

Materials and Methods

The present observationaldescriptiveinstitution-basedstudy,crosssectional study was conducted in the Department of Obstetrics &Gynecology, Eden Hospital, Medical College & Hospital, Kolkata, West Bengal, India. All postmenopausal women with endometrial hyperplasia with endometrial hyperplasia with endometrial thickness more thanor equal to 4.0 mmdiagnosed by ultrasonographyattending Edenoutdoor and whowere admittedinthe hospitalwhoconfoundtothe inclusioncriteriawererecruitedforthe study. The duration of the study was January 2020 to June 2021.

Inclusion criteria : All postmenopausal cases attending with various clinical symptoms and endometrial hyperplasia with endometrial thickness more than or equal to 4.0mm diagnosed by ultrasonography at Medical Collage & Hospital, Kolkata, during the study period. Gave informed written consent for participation in diagnostic dilatation and curettage

Exclusioncriteria : Postmenopausal women with diagnosed case of Ca cervix, Cervical polyp, Cervical erosion, were excluded from my study.

Sample Size:-
Assuming p value <0.05 and considering an effect size we got n=98. Hence 98 patients were included in the study.

Parameters Studied : Age, Socio-economic status, Menstrual history, Varieties of per-virginal bleeding, Parity, Year since last child birth, Mode of delivery, History of abortion and other medical history like Hypertension, Heart disease, Diabetes Mellitus, Tuberculosis were noted.

Method of Data Analysis Plan : For statistical analysis data were entered into a Microsoft excel spreadsheet and then analyzed by SPSS (version 27.0; SPSS Inc., Chicago, IL, USA) and Graph Pad Prism version 5. Data had been summarized as mean and standard deviation for numerical variables and count and percentages for categorical variables. Two-sample t-tests for a difference in mean involved independent samples or unpaired samples. Paired t-tests were a form of blocking and had greater power than unpaired tests. One-way analysis of variance (one-way ANOVA) was a technique used to compare means of three or more samples for numerical data (using the F distribution). A chi-squared test ($\chi 2$ test) was any statistical hypothesis test wherein the sampling distribution of the test statistic is a chi-squared distribution when the null hypothesis is true. Without other qualification, 'chi-squared test' often is used as short for Pearson's chi-squared test. Explicitexpressionsthatcanbeusedtocarryout

various *t*-tests aregivenbelow.Ineachcase,theformulafor a test statistic that either exactly follows or closely approximates a *t*-distribution under the null hypothesis is given. Also, the appropriate degrees of freedomare given ineachcase. Eachofthese statistics canbe used to carry out eitheraone-tailedtest ora two-tailedtest. p-value≤0.05wasconsideredforstatisticallysignificant.

Ethical considerations- Study was initiated after obtaining the informed consents from the participants and ethical clearance from the institutional ethical committee.

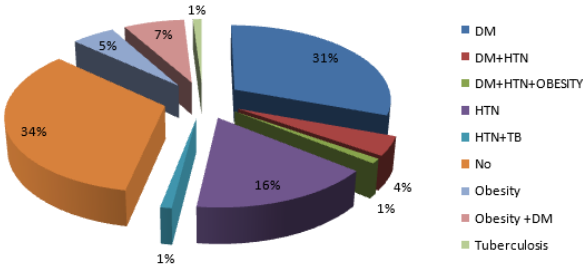
Results

Table1.Distribution of participants according to different parameters

Ageingroup	**Frequency**	**Percent**
≤50	16	16.3%
51-60	57	58.2%
61-70	25	25.5%
Total	**98**	**100.0%**
Parity		
Prime para	73	74.5%
Multi para	25	25.5%
Socio-economic Status		
Higher Class	4	4.1%
Lower Class	65	66.3%
Lower Middle Class	15	15.3%
Middle Class	14	14.3%
Heavy bleeding		
No	53	54.1%
Yes	45	45.9%
Spotting		
No	65	66.3%
Yes	33	33.7%
Post coital bleeding		
No	85	86.7%
Yes	13	13.3%
Asymptomatic		
No	66	67.3%
Yes	32	32.7%

In our study, 16 (16.3%) patients were ≤50 years of age, 57 (58.2%) patients were 51-60 years of age and 25 (25.5%) patients were 61-70 years of age. Prime para was 73 (74.5%) and multi para was 25 (25.5%). In our study, 4 (4.1%) patients were from Higher Class, 65 (66.3%) patients were from Lower Class, 15 (15.3%) patients were from Lower Middle Class and 14 (14.3%) patients were from Middle Class. In our study, 45 (45.9%) patients had heavy bleeding. In our study, 33 (33.7%) patients had spotting. In our study, 13 (13.3%) patients had post coital bleeding. In our study, 32 (32.7%) patients were asymptomatic. (Table 1)

Figure 1 : Distribution of having history of various medical illness



In our study, 30 (30.6%) patients had DM, 4 (4.1%) patients had DM & HTN, 1 (1.0%) patients had DM, HTN & obesity, 16 (16.3%) patients had HTN, 1 (1.0%) patients had HTN & TB, 5 (5.1%) patients had Obesity, 7 (7.1%) patients had Obesity & DM,1 (1.0%) patients had Tuberculosis as

medical illness. (Figure 1)

Table 2.Distribution of participants according to different medical history

History of Chronic anovulation	Frequency	Percent
No	75	76.5%
Yes	23	23.5%
History of Polycystic ovary syndrome		
No	89	90.8%
Yes	9	9.2%
History of Any hormone/Medication therapy		
No	64	65.3%
Yes	34	34.7%
History of White discharge		
No	36	36.7%
Yes	62	63.3%

In our study, 23 (23.5%) patients had History of Chronic anovulation. In our study, 9 (9.2%) patients had History of Polycystic ovary syndrome. In our study, 34 (34.7%) patients had History of Any hormonal/Medication therapy. In our study, 62 (63.3%) patients had History of White discharge. (Table 2)

Table 3.Distribution of different means of findings of study population

	Number	Mean	SD	Minimum	Maximum	Median
Age	98	57.1633	5.7825	48.0000	70.0000	57.0000
Year sincelast child birth	98	29.0000	3.1492	24.0000	34.0000	29.0000
Age at menopause	98	51.0204	2.2198	47.0000	55.0000	51.0000
Duration of menopause	98	6.1429	4.9948	1.0000	20.0000	5.0000
Endometrial Thickness	98	6.9398	1.4398	4.1000	10.0000	6.4000

Mean Age (mean±s.d.) of patients was 57.1633± 5.7825. Mean Year since last child birth (mean±s.d.) of patients was 29.0000± 3.1492. Mean Age at menopause (mean±s.d.) of patients was 51.0204± 2.2198. Mean Duration of menopause (mean±s.d.) of patients was 6.1429± 4.9948. Mean Endometrial Thickness (mean±s.d.) of patients was 6.9398± 1.4398. (Table 3)

Table 4. Association between Asymptomatic study population & HPE Report

	HPE Report					
Asymptomatic	**Endometrial Polyp**	**Hyperplasia withAtypia**	**Hyperplasia without Atypia**	**Proliferative Endometrium**	**Serouscelltype endometrial carcinoma**	**Total**
No	16	23	7	15	5	66
Row%	24.2	34.8	10.6	22.7	7.6	100.0
Col%	80.0	60.5	77.8	57.7	100.0	67.3
Yes	4	15	2	11	0	32
Row%	12.5	46.9	6.3	34.4	0.0	100.0
Col%	20.0	39.5	22.2	42.3	0.0	32.7
TOTAL	20	38	9	26	5	98
Row%	20.4	38.8	9.2	26.5	5.1	100.0
Col%	100.0	100.0	100.0	100.0	100.0	100.0

Chi-square value: 6.2315; p-value: 0.0425

In Endometrial Polyp HPE, 4 (20.0%) patients were Asymptomatic. In Hyperplasia with Atypia HPE, 15 (39.5%) patients were Asymptomatic. In Hyperplasia without Atypia HPE, 2 (22.2%) patients were Asymptomatic. In Proliferative Endometrium HPE, 11 (42.3%) patients were Asymptomatic. Association of Asymptomatic population with HPE Report was statistically significant (p=0.0425). (Table 4)

Table 5: Association between Having History of medical illness & HPE Report

HPE REPORT						
Historyofmedicalillness	**Endometrial Polyp**	**Hyperplasia withAtypia**	**Hyperplasia without Atypia**	**Proliferative Endometrium**	**Serous cell type endometrial carcinoma**	**Total**
DM	6	12	4	5	3	30
Row%	20.0	40.0	13.3	16.7	10.0	100.0
Col%	30.0	31.6	44.4	19.2	60.0	30.6
DM&HTN	1	2	0	1	0	4
Row%	25.0	50.0	0.0	25.0	0.0	100.0
Col%	5.0	5.3	0.0	3.8	0.0	4.1
DM,HTN&Obesity	0	0	0	0	1	1
Row%	0.0	0.0	0.0	0.0	100.0	100.0
Col%	0.0	0.0	0.0	0.0	20.0	1.0
HTN	4	5	2	5	0	16
Row%	25.0	31.3	12.5	31.3	0.0	100.0
Col%	20.0	13.2	22.2	19.2	0.0	16.3
HTN&TB	1	0	0	0	0	1
Row%	100.0	0.0	0.0	0.0	0.0	100.0
Col%	5.0	0.0	0.0	0.0	0.0	1.0
NoMedical illness	4	15	3	11	0	33
Row%	12.1	45.5	9.1	33.3	0.0	100.0
Col%	20.0	39.5	33.3	42.3	0.0	33.7
Obesity	3	2	0	0	0	5
Row%	60.0	40.0	0.0	0.0	0.0	100.0
Col%	15.0	5.3	0.0	0.0	0.0	5.1
Obesity&DM	1	2	0	3	1	7
Row%	14.3	28.6	0.0	42.9	14.3	100.0
Col%	5.0	5.3	0.0	11.5	20.0	7.1
Tuberculosis	0	0	0	1	0	1
Row%	0.0	0.0	0.0	100.0	0.0	100.0
Col%	0.0	0.0	0.0	3.8	0.0	1.0
Total	20	38	9	26	5	98
Row%	20.4	38.8	9.2	26.5	5.1	100.0
Col%	100.0	100.0	100.0	100.0	100.0	100.0

Chi-square value: 43.0968; p-value:0.0911

In Endometrial Polyp HPE, 6 (30.0%) patients had DM, 1 (5.0%) patients had DM & HTN, 4 (20.0%) patients had HTN, 1 (5.0%) patients had HTN &TB, 3 (15.0%) patients had Obesity and 1 (5.0%) patients had Obesity & DM as medical illness. In Hyperplasia with Atypia HPE, 12 (31.6%) patients had DM, 2 (5.3%) patients had DM & HTN, 5 (13.2%) patients had HTN, 2 (5.3%) patients had Obesity and 2 (5.3%) patients had Obesity & DM, as medical illness. In Hyperplasia without Atypia HPE, 4 (44.4%) patients had DM and 2 (22.2%) patients had HTN as medical illness. In Proliferative Endometrium HPE, 5 (19.2%) patients had DM, 1 (3.8%) patients had DM & HTN, 5 (19.2%) patients had HTN, 1 (1.0%) patients had HTN & TB, 3 (11.5%) patients had Obesity & DM and 1 (3.8%) patients had Tuberculosis as medical illness. In Serous cell type endometrial carcinoma HPE, 3 (60.0%) patients had DM, 1 (20.0%) patients had DM, HTN & obesity and 1 (20.0%) patients had Obesity & DM as medical illness. Association of Having History of medical illness with HPE Report was not statistically significant (p=0.0911). (Table 5)

Table 6 : Association between History of Any hormonal/Medication therapy & HPE Report

HPE Report						
HistoryofAnyhormone/Medication therapy	**Endometrial Polyp**	**Hyperplasia with Atypia**	**Hyperplasia without Atypia**	**Proliferative Endometrium**	**Serous cell type endometrial carcinoma**	**Total**
No	9	23	7	24	1	64

Row%	14.1	35.9	10.9	37.5	1.6	100.0
Col%	45.0	60.5	77.8	92.3	20.0	65.3
Yes	11	15	2	2	4	34
Row%	32.4	44.1	5.9	5.9	11.8	100.0
Col%	55.0	39.5	22.2	7.7	80.0	34.7
TOTAL	20	38	9	26	5	98
Row%	20.4	38.8	9.2	26.5	5.1	100.0
Col%	100.0	100.0	100.0	100.0	100.0	100.0

Chi-square value: 17.5371; p-value:0.0015

In Endometrial Polyp HPE, 11 (55.0%) patients had History of Any hormone/Medication therapy. In Hyperplasia with Atypia HPE, 15 (39.5%) patients had History of Any hormone/Medication therapy. In Hyperplasia without Atypia HPE, 2 (22.2) patients had History of Any hormone/Medication therapy. In Proliferative Endometrium HPE, 2 (7.7%) patients had History of Any hormone/Medication therapy. In Serous cell type endometrial carcinoma HPE, 4 (80.0%) patients had History of Any hormone/Medication therapy. Association of History of any hormone/medication therapy with HPE Report was statistically significant (p=0.0015). (Table 6)

Table 7 : Association between distribution of mean Endometrial Thickness & HPE Report

Endometrial Thickness	Number	Mean	SD	Minimum	Maximum	Median
EndometrialPolyp	20	7.9950	1.4296	5.9000	9.6000	8.8500
Hyperplasia with Atypia	38	6.4947	.9197	5.2000	8.6000	6.3500
Hyperplasiawithout Atypia	9	5.9889	1.3560	4.1000	8.6000	5.8000
Proliferative Endometrium	26	6.6385	1.3446	4.5000	9.2000	6.0000
Serous cell type endometrial carcinoma	5	9.3800	.4919	8.9000	10.0000	9.2000

p- value - <0.0001

In Endometrial Polyp HPE, the mean Endometrial Thickness (mean±s.d.) of patients was 7.9950± 1.4296. In Hyperplasia with Atypia HPE, the mean Endometrial Thickness (mean±s.d.) of patients was 6.4947±.9197. In Hyperplasia without Atypia HPE, the mean Endometrial Thickness (mean±s.d.) of patients was 5.9889± 1.3560. In Proliferative Endometrium HPE, the mean Endometrial Thickness (mean±s.d.) of patients was 6.6385± 1.3446. In Serous cell type endometrial carcinoma HPE, the mean Endometrial Thickness (mean±s.d.) of patients was 9.3800± .4919. Association of distribution of mean Endometrial Thickness with HPE Report was statistically significant (p<0.0001). (Table 7)

Discussion:

This observational descriptive institution-based study, cross sectional study was conducted in the Department of Obstetrics &Gynecology, Eden Hospital, Medical College & Hospital, Kolkata from 1st January, 2020 to 30th June 2021. All postmenopausal women with endometrial hyperplasia with endometrial thickness more than or equal to 4.0 mm diagnosed by ultrasonography attending Eden outdoor and who were admitted in the hospital who confound to the inclusion criteria were recruited for the study.We observed that, 16 (16.3%) patients were ≤50 years of age, 57 (58.2%) patients were 51-60 years of age and 25 (25.5%) patients were 61-70 years of age. The mean Age of patients was 57.1633± 5.7825 years. Prime para was 73 (74.5%) and multi para was 25 (25.5%). In our study, 4 (4.1%) patients were from Higher Class, 65 (66.3%) patients were from Lower Class, 15 (15.3%) patients were from Lower Middle Class and 14 (14.3%) patients were from Middle Class. In our study, 45 (45.9%) patients had heavy bleeding. In our study, 33 (33.7%) patients had spotting. In our study, 13 (13.3%) patients had post coital bleeding. In our study, 32 (32.7%) patients were asymptomatic.

KothapallyK*et al*[8](2013)foundthatthecommonestfindingof pelvicUSG wasincreasedendometrial thickness (>4mm) (80%).Thehistopathological analysis showed proliferate endometrium (36.3%), atrophic endometrium(16.6%),

cystoglandularhyperplasia(10%)and endometrialhyperplasia (6.6%). Incidence of cervicalandendometrialcarcinomaswas10%and6.6 %,respectively.thepostmenopausalbleedingisan important symptomand requires careful and timely assessment to eliminate the possibility of malignancyas soon as possible.

Weexamined that, 20 (20.4%) patients had Endometrial Polyp, 38 (38.8%) patients had Hyperplasia with Atypia,9(9.2%)patients had Hyperplasia without Atypia,26 (26.5%) patients hadProliferative Endometrium and 5(5.1%)patientshad Serous cell typeendometrialcarcinomain HPEReport. We examined that the mean Year since last child birth (mean±s.d.) of patients was 29.0000± 3.1492. We observed that that the mean Age at menopause (mean±s.d.) of patients was 51.0204± 2.2198. Present study showed that the mean Durationof menopause (mean±s.d.) ofpatients was 6.1429± 4.9948. We observed that the mean EndometrialThicknessof patientswas 6.9398±1.4398.

Talukdar B *et al*[9](2016) found that among 103 number of hysterectomized cases for AUB, most of the patients were between 40 and 45 years of age (67.97%) and menorrhagia was the dominant clinical presentation. The majority (45.63%) of cases were diagnosed as fibroid uterus by ultrasonography with 89.13% sensitivity and 89.47% specificity. Histopathological reports of myometrium showed 44.66% fibromyoma,followedby34.95%ofthenormalmyometrium.Histopathologyofendometriumrevealed hyperplasia in themost cases (56.31%) where simple typical type was the predominant. Uterine fibroid was theleadingcauseofAUBandradiological,pathologicalevaluationcorrelatedwelltodiagnosefibroid.

We observed that in EndometrialPolyp HPE, 4(20.0%) patients had P1+1 Parityand 4(20.0%) patients had P1+2 Parity. InHyperplasia withAtypia HPE, 5(13.2%) patients had P2+0 Parityand5(13.2%) patients had P3+1Parity. BegumJ *et al*[10](2019) found that womenofEC and hyperplasia group were more likely to be multiparous, diabetic, hypertensive, obese or overweight, has a history of recurrent bleeding episodes or thickendometrium. StarczewskiA *et al*[11](2005) found that the endometrial cancer was themost frequent in thethirdgroup--in 29 examined women (16.11%) and was significantly rarein thefirst and secondgroups: 9women (4.84%) and 2 women (0.68%), respectively.

Bohîlțea RE*et al*[12](2015)found thatthemainsymptom, whichdetermines thepatients'decisionto go tothe physician,is the abnormaluterinebleeding. 66%ofthe cases ofendometrialcancer inthestageofthe disease limited to the uterus are diagnosed in Romania based onthe abnormal uterine bleeding. However, 34% ofthe casesarediagnosedin advanced stages, presentingasignificantlylowlifeexpectancy.

Presentstudyshowed that in EndometrialPolyp HPE,16(80.0%)patients had heavybleeding, InHyperplasia with Atypia HPE, 15 (39.5%) patients had heavy bleeding, In Hyperplasia without Atypia HPE, 4 (44.4%) patients had heavybleeding, InProliferativeEndometriumHPE,7(26.9%)patients had heavybleedingand in Serous cell type endometrial carcinoma HPE, 3 (60.0%) patients had heavy bleeding. Hence the result was statisticallysignificant(p=0.0068).

Smith PP *et al*[13](2014) found that the risk of having endometrial cancer or hyperplasia with atypia was significantly lessin women with recurrent PMB (9%) as compared with those with afirst episode of PMB (8%)(p = .002), but were significantly more likely to have benignendometrial polyps (28%) compared with womenwithafirstepisodeofPMB(19%).

We foundthat in EndometrialPolypHPE,4(20.0%)patientswereAsymptomatic, InHyperplasiawithAtypia HPE, 15 (39.5%) patients were Asymptomatic, In Hyperplasia without Atypia HPE, 2 (22.2%) patients were Asymptomatic and in Proliferative Endometrium HPE, 11 (42.3%) patients were Asymptomatic and It was statisticallysignificant(p=0.0425).

Mahajan N *et al*[14](2012) found that main symptoms associated with menopause were reported as fatigue (62%), hot flashes (56%), Cold sweats (52%), and backaches (51%). Other ailments associated with menopause were arthritis (25%), hypertension(23%), and diabetes (6%).Meanage of menopause was 44.54 years.Chiefcomorbidconditionswerearthritisandhypertension.

Our studyshowed that in Endometrial Polyp HPE, the meanAge at menopause (mean± s.d.) ofpatients was 50.8500± 2.4767, InHyperplasia withAtypia HPE, the meanAge at menopause (mean± s.d.) ofpatients was 50.6579± 2.2454, InHyperplasia without Atypia HPE, the mean Age at menopause (mean± s.d.) ofpatients was 50.8889± 2.0276, In Proliferative Endometrium HPE, the mean Age at menopause (mean± s.d.) ofpatients was 51.5000± 1.9647 and In Serous cell type endometrial carcinoma HPE, the mean Age at

menopause(mean±s.d.)ofpatientswas52.2000±2.5884.Whichwasnotstatisticallysignificant(p=0.4417).

Costa-Paiva L *et al*[15](2011) found that the mean (SD) age of the women was 57.5 (10.6) years. Of these women, 76.4% were postmenopausal. Women were diagnosed with benign lesions in 95.8% of cases. Premalignant polyps accounted for 1.6% ofthe total number of cases. Malignant polyps represented 2.5% of the totalsample. Postmenopausalbleedingand age greater than60 years were the only factors that remained associatedwithahigherriskof malignancy.

In present study Endometrium HPE, the mean Duration of menopause (mean± s.d.) ofpatients was 6.6154± 4.8504 and inSerous cell type endometrialcarcinoma HPE, the mean Duration of menopause (mean± s.d.) of patients was 4.6000± 4.9800. That was not statistically significant(p=0.3849).

Begum J *et al*[10](2019) found that the mean age at the time of presentation was 57.17 ± 7.11 years, mean menopausal age was 49.18 ± 3.69 years, and mean thickness of endometrial was 11.13 ± 6.37 mm.The histopathological analysis showed atrophic endometrium (30.3%), proliferative endometrium (27.6%), EC (15.8%), endometrium hyperplasia (11.8%), disordered proliferative endometrium (9.2%), and endometrial polyp (5.3%).

JoHC*et al*[16](2018)foundthatendometrialbiopsywasperformedinallcasesofendometrialthickness≥5 mm. They examined 498 patients with postmenopausal bleeding (PMB). In group A, atrophic endometrium (n=125, 61.27%) was the most commoncause ofPMB.

We also found that in EndometrialPolyp HPE, the mean EndometrialThickness (mean± s.d.) ofpatients was 7.9950± 1.4296, InHyperplasia with Atypia HPE, the mean Endometrial Thickness (mean± s.d.) ofpatients was 6.4947± .9197, In Hyperplasia without Atypia HPE, the mean Endometrial Thickness (mean± s.d.) of patients was 5.9889± 1.3560, In Proliferative Endometrium HPE, the mean Endometrial Thickness (mean± s.d.) of patients was 6.6385± 1.3446 and In Serous cell type endometrial carcinoma HPE, the mean Endometrial Thickness (mean± s.d.) of patients was 9.3800± .4919. Which was statistically significant (p<0.0001).

Limitation of the study:

In spite of every sincere effort my study has lacunae. The notable short comings of this study are. The sample size was small. Only 98 cases are not sufficient for this kind of study. The study has been done in a single centre. The study was carried out in a tertiary care hospital, so hospital bias cannot be ruled out.

Conclusions

We found that most of the patients were 51-60 years old and the mean Age of patients was 57.1633 years. We observed that most of the patients with Proliferative Endometrium (42.3%), Hyperplasia with Atypia (39.5%) were Asymptomatic with incidentally diagnosed endometrial hyperplasia and this was statistically significant, so all postmenopausal women with endometrial hyperplasia who are asymptomatic may not, undergo Histopathological examination because chance of malignancy is less. We found that History of Chronic anovulation was significantly less observed in patients with Endometrial Polyp and significantly more observed in patients with Serous type endometrial carcinoma. It was found that the DM was the most common comorbidity for the patients of Endometrial Polyp, Hyperplasia with Atypia, Hyperplasia without Atypia and Serous cell type endometrial carcinoma, Diabetes mellitus should be rule out

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