ANALYSIS OF WOMEN WITH ENDOMETRIAL HYPERPLASIA MEASURED BY U/S IN THE CONTEXT OF SOCIO-DEMOGRAPHIC AND OTHER RISK FACTORS IN LAST FIVE YEARS IN AL-HILLA CITY IN IRAQ

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ABSTRACT

Objective:-Assessment of presence of risk factors of this disease, year's through highly associated prevalence of the endometrial uterine hyperplasia from 2014-2018 & age-related prevalence of endometrial hyperplasia, in perimenaupausal patients with abnormal vaginal bleeding.

Keywords: risk factors, endometrial hyperplasia, vagina bleeding, perimenaupausal

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INTRODUCTION

Its pathophysiology is related with the exciting and uninterrupted motivation of the endometrial layers of the uterus [(1)] through increase in estrogen levels united with insufficient levels of progesterone [(2, 3)]. The risk factorsforendometrial hyperplasiacompriseobesity, chronic anovulation, polycystic ovarian syndrome, etc [(4, 5)] tamoxifen only treatment, and estrogen-only hormone treatment [(5)].

Endometrial uterinehyperplasia has been categorized into:-

1- Simple ENH: - comprised ofminor endometrial glandular accumulating& with low risk fordevelopment toCA.

2- Simple AENH:- comprised of endometrial layerwith simpleglandular accumulating& cytological atypia &maximum risk for development to CA[(6)].

3- Complex EH:- comprised ofmore endometrial glandular accumulating&intermediaryrisk of development to endometrial carcinoma.

4- Complex AENH:-consist ofendometrial layer with complex glandular accumulating&cytological atypia and the maximum danger of development to carcinoma [6].

Although the statement that endometrial uterine carcinoma was ahighestpublic gynecologic malignancyin acreation, absolutely after breast carcinoma, with an incidence of 23.2/100,000 ladies [7]. Endometrial uterine hyperplasia not only prompts to endometrial carcinoma but its offeringwith clinical symptoms such as abnormal uterine bleeding, polymenorrhea & menorrhagia, often lead to urgency and outpatient assessments [6,11,12]. Endometrial uterine hyperplasia (EH) is a pathological disorderdescribed by hyperplastic deviations in endometrial glandular and stromal configurations lining of the uterine cavity [8]. Unopposed estrogen leadtomotivation of the endometrium causes proliferative glandular epithelial deviations, including glandular transformation, causinginconsistentlydesigned, sporadicallyscattered glands. The most common risk factors for a progress to (endometrial carcinoma)include Diabetes, obesity,unbalanced estrogen treatment, PCOs, tamoxifen therapy and grand multipara &nillparity….etc[4]. Female patient, her family and the healthinessstafftolerate anexpense&load of diagnosticassessments then medical as well surgical treatment (including taking endometrial biopsy, hystroscpic examination, possible prolonged progestogen treatment, D&C,& hysterectomy)[6, 8,9]. Here were no predictable screening methodspresented forrecognition of endometrial carcinoma & herprecursor scratches earlier. Cancersfrequently aredistinguishedafterhistory taking from the patients about abnormal uterine bleeding thenexamination & investigation [10,11].Estimations a prevalencefor endometrial uterine hyperplasia need take into attention the diagnoses of it wascomplete only betweenwomenwho had endometrial specimen. Owing to the disturbing nature of endometrial specimen, rarely we do endometrial cultures on patients had no complain [12, 13]. Results from this study suggest that half of theladies with abnormal uterinebleeding, had simple and complex one.Explanation of that was the several forms of endometrial hyperplasia necessity take into justification, thatdocumented diagnostic challenges for endometrial tissues and the disagreementabout the pathologic cataloging of endometrial hyperplasia and well- differentiated endometrial cancer[16,21].Incorrectness in the histopathologic analyses of endometrial hyperplasia had been well demarcated, as well as concerns for associated endometrial carcinoma [14].The WHO94 plan is a most frequently used by pathologists, but transitioning to the endometrial intraepithelial neoplasia (EIN)terms could bemoreadvantage to clinical organization[1, 12, 16].

MATERIAL AND METHODS

The Incidence of endometrial hyperplasia in ladies presentingwith abnormal uterine bleeding were rise in last few years, so we do observational study on inpatients & outpatients clinic in obstetrics and gynecological department in Babylon teaching hospital and some private clinics after taking their permission. Endometrial uterine hyperplasia (EH) is defined as exciting growing for theglands of endometrium&the type of EH determined on the histopathological description of the specimen changes then congregated according to the old and recent classification of the WHO, but nowadays the recent one is more commonly used than the other.One hundred fiftypatients who presented with abnormal uterine bleeding wererecorded andprevalence of endometrial hyperplasia assessed in them after taking an endometrial sampling either by dilatation and curettage or hystroscopic sampling according to patients wishes and availability of the methods. Theseladies were above 30 years oldin period between 2014till 2018.The endometrial thickness were measured by U/S

then take permission from them to do diagnostic dilatation and curate some under GA and the other by hystroscope to take endometrial biopsythen send the sample for histopathological examination to detect the type of hyperplasia according to WHO criteria (previous & recent classification) and do analysis for the results whether simple, complex, atypia or presence of incite malignancy.

RESULTS

Table 1 shows the mean age of women with endometrial hyperplasia was 48.51±8.05 ranging from (30-66).More than half of women with endometrial hyperplasia live in urban area (57.3%), while women who live in rural area42.7%.Regarding occupation,58.0% of women were employed in comparison with housewives which represented 42.0% of women.

Table 1: Distribution of socio-demographic factors of women with endometrial hyperplasia

Variables	Mean±SD	Range
Age(years)	48.51±8.05	(30-66)
Residence		
Urban	86	57.3%
Rural	64	42.7%
Total	150	100%
Occupation		
Employed	87	58%
Housewife	63	42%
Total	150	100%

Table 2:- shows endometrial thickness for women with abnormal uterine bleeding that was measured by ultrasound was 15.5±10.1.Three quarter of them was multiparous (78.0%)

Table 2: Distribution of variables of women with abnormal uterine bleeding

Variables	Mean±SD	Range
Endometrialthickness (mm)	15.5±10.1	(2-37)

Gravida		
Multiparous	117	78%
Nulliparous	33	22%
Total	150	100%

Table 3:- shows old age as a risk factor for AUB 34.7%followed by PCO,grand multiparty and bleeding tendency in a percentage of 19.3%,16.7% and 15.3% respectively.

Table 3: Distribution of risk factors for abnormal uterine bleeding

Variables	Number	Percentage
Old age	52	34.7%
Polycystic ovary	29	19.3%
Grandmultiparty	25	16.7%
Bleeding tendency	23	15.3%
Diabetes Mellitus	15	10.0%
Tamoxifinuse	6	4.0%
Total	150	100.0%

Notes:-grand multiparus means herparity5 and above

Figure 1 shows that the most common cause ofabnormal uterine bleeding was endometrial hyperplasia which represented 50.0% followed by endometrial aplasia and bleeding tendency in a percentage of 34.7% and 15.3% respectively.

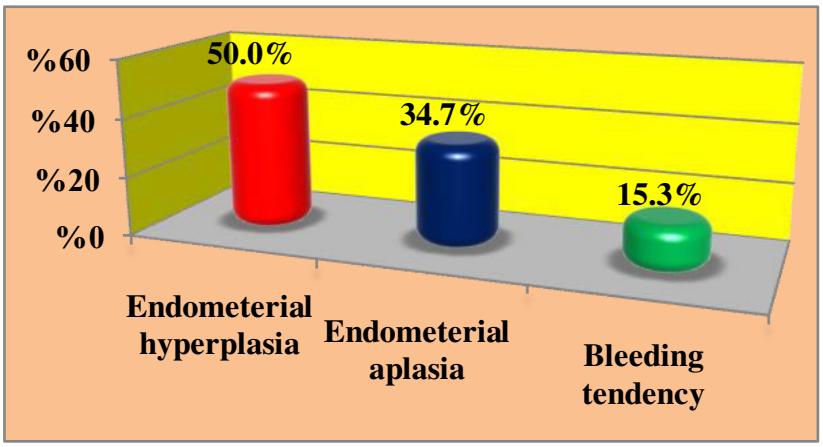

Figure 1: Distributionof the most common causes of uterine bleeding

Figure 2 shows that the percentage ofladies who had endometrial hyperplasia according to year that diagnosis in it,was increase in 2016,2017 and 2018 in a percentage of 8.0%,28.0% and 27.3% respectively.

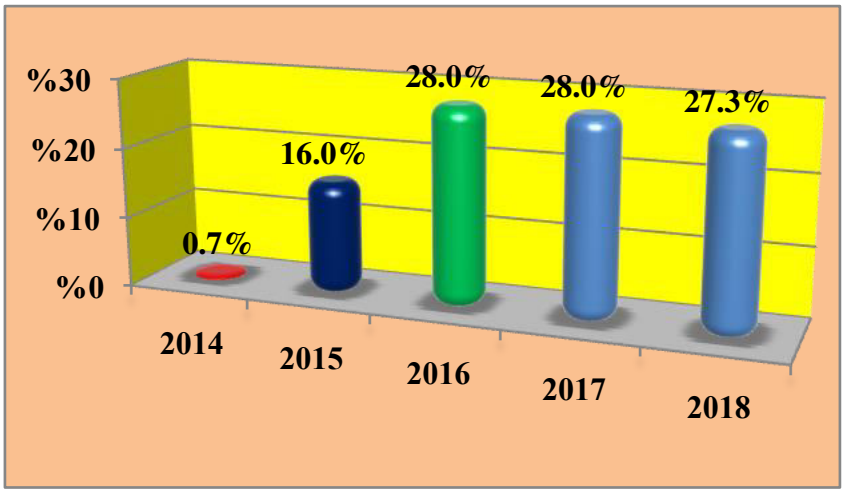

Figure 2: Distribution of women with endometrial hyperplasia according to year ofdisease diagnosis

Table 4 shows the higher percentage of AUB was hyperplasia (in all types)which represented 50.0% &the most common subtype of HP isComplex typical hyperplasia which represented 16.7% and the most common cause of AUB endometrial aplasia

Table 4: Distribution of causes of abnormal uterine bleeding

Variables	Number	Percentage
Simple typical hyperplasia	10	6.6%
Simple atypical hyperplasia	18	12.0%
Complex typical hyperplasia	25	16.7%
Complex atypical hyperplasia	22	14.7%
Aplasia	48	32.0%
Others	27	18%
Total	150	100%

Table 5 shows F test was conducted to show if there is a mean differences in age of women with AUB. According to causes (endometrial hyperplasia, endometrial aplasia and bleeding tendency),types of endometrial hyperplasia(simple typical endometrial hyperplasia, simple atypical endometrial hyperplasia, complex typical endometrial hyperplasia, complex atypical endometrial hyperplasia, aplasiaand others) and

residence (urban and rural).There are significant mean differences in all circumstances, p value =0.008,<0.001 and 0.047 respectively.

Table 5: Difference mean forwomen's agerendering to variables

Variable	groups of study	N	Mean of age	F test	P-value
Age(year)	**Causes of abnormal uterine bleeding**				
	Endometrial hyperplasia	75	46.53±7.31	**4.968**	**0.008***
	Endometrial aplasia	48	58.87±7.91		
	Bleeding tendency	23	49.65±9.28		
	Total	150			
	Types of abnormal uterine bleeding				
	Simple typical hyperplasia	10	38.2±5.43	**7.418**	**<0.001***
	Simple atypical hyperplasia	18	47.56±5.53		
	Complex typical hyperplasia	25	44.6±6.31		
	Complex atypical hyperplasia	22	51.68±6.25		
	Aplasia	48	58.44±8.11		
	Others	27	50.59±8.81		
	Total	150			
	Residence				
	Urban	86	49.64±7.36	**4.023**	**0.047***
	Rural	64	47±8.71		
	Total	150			

***P value≤0.05issignificant**

Table(6)demonstratesF test was conducted to show if there is a mean differences in endometrial thickness measured by ultrasound of ladies with uterine endometrial hyperplasia according to types for uterine endometrial hyperplasia(simple typical uterine hyperplasia, simple atypical uterine hyperplasia, complex typical uterine hyperplasia, complex atypical uterinehyperplasia, aplasiaand others).There is significant mean difference p value <0.001.

Table 6: Mean difference of endometrial thickness measured by ultrasound according to variables

Variable	Study groups	N	Mean±SD	F test	P-value
endometrial thickness (mm)	**Types of endometrial hyperplasia**				
	Simple typical uterine hyperplasia	10	21.6±2.75	**115.491**	**<0.001***
	Simple atypical uterine hyperplasia	18	22.61±3.56		
	Complex typical uterine hyperplasia	25	26.64±5.69		
	Complex atypical uterine hyperplasia	22	24.64±5.5		

*P value≤0.05issignificant.

Table7 displays Fisher exact test is conducted to show if there is an association between risk factors of endometrial hyperplasia (tamoxifin use,grand multiparty,PCO,DM,old age and bleedingtendency) and types of endometrial hyperplasia (simple typical uterine hyperplasia, simple atypical uterine hyperplasia, complex typical uterine hyperplasia, complex atypical uterine hyperplasia, aplasia and others).

Table 7: Association between risk factors and causes of abnormal uterine bleeding

Risk factors	**causes of abnormal uterine bleeding**						**P value**
	Simple typical uterine hyperplasia	**Simple atypical uterine hyperplasia**	**Complex typical uterine hyperplasia**	**Complexatypical uterine hyperplasia**	**Aplasia**	**Others**	
Bleeding tendency	0(0.0%)	0(0.0%)	0(0.0%)		1(2.1%)	22(81.5%)	**<0.001***
DM	1(10.0%)	5(27.8%)	1(4.0%)	0(0.0%)	0(0.0%)	0(0.0%)	
Grandmultiparty	8(80.0%)	6(33.3%)	3(12.0%)	8(36.4%)	0(0.0%)	0(0.0%)	
Old age	0(0.0%)	0(0.0%)	0(0.0%)	8(36.4%)	47(97.9%)	0(0.0%)	
PCO	1(10.0%)	5(27.8%)	20(80.0%)	0(0.0%)	0(0.0%)	0(0.0%)	
Tamoxifinuse	0(0.0%)	2(11.1%)	1(4.0%)	3(13.6%)	0(0.0%)	0(0.0%)	
others	0(0.0%)	0(0.0%)	0(0.0%)	3(13.6%)	0(0.0%)	5(18.5%)	
Total	10(100.0%)	18(100.0%)	25(100.0%)	0(0.0%) 22(100.0%)	48(100.0%)	27(100.0%)	

*P value≤ 0.05 was significant. F: Fisher-exact test.

Data exploration

Facts admission and exploration is prepared by SPSS version 24 computer software (statistical package for social sciences), definite variables areexistingfor exampleincidences and percentages, constant variables areexistingfor example (mean ±standard deviation). Fisher exact test isas well used to displayconnotation between two definite variables. F-test is used to conclude the mean differences among groups. P value of ≤ 0.05 isreflected as significant statistically.

DISSCUSSION

Our research's findings show that the EHpercentage were50%of women with abnormal uterine bleeding (simple typical EH percentage was 3.3% of ladies with hyperplasia of endometrium; simple atypical endometrial hyperplasia percentage was 6%. While complex typical was 7% and complex atypical was 7.35%, and this is higherthan those resulted from other studies in the world. Prior studies that used informationfrom 1985 to 2003, founded that typical EH: 0.121%lady-years; atypical EH: 0.017woman-years) and carcinoma in sito 0.078%lady-years, correspondingly (Reed et al., 2009; Lacey et al., 2012)[16].Causes of those variations were unidentified; Period whenreports areachieved may disturba percentage. Prior researches arecreated onfactsproduced before 2002, at that time,old WHO classification was energetically used, however this reportstudiedfacts areproduced next to new WHO classification[17].Usageold one hadprogressively weakened as a new classification was discovered, this might disturb the EH rate. Women age mean is 48.51±8.05 years. EH rate subsequent to perimenopause, determined by Reed et al. is lower thanreported inpresent study [18]. Different from unopposed estrogen, estrogen & progestogenmixture did not rise the EH rate [19], signifyingmoreresearches wererequired. Additionally, age-linked endometrial hyperplasia or endometrial carcinomaincidences maydifferbetweendifferent places in the world.High BMI washazardcause for endometrial hyperplasia or endometrial carcinoma [20].Amost common cause for abnormal uterine bleeding in perimenopausal period was endometrial hyperplasia; all causes significantlyaffected by age of the patients. Other causes of bleeding such as Bleeding tendency, DM, Grand multiparty, Old age, PCO and Tamoxifin use were significantly affect prevalence of EH&EC.

CONCLUSION

Incidence of EH proportions for all typesaccording to WHO criteriaconsidered in this report were slightly higher in last years. This increase till now not identified, may be increased due to infertility, fast food, large percent of women reach menopausal period more than previously due to developed care for elderly female, etc.

RECOMMENDATION

1-Additional reports at the sameproblem are mandatory in our city & then in our country to evaluate the real cause and rate of the type of endometrial hyperplasia, its sequels and the possible cause s of its occurrence and incrementof each one.

2- this disease waseasily determined, treated andprevent its conversion to malignancy as can as possible.so preferably take an endometrial sampling from any menopausal women present with endometrial thickness > 5 mm.

ETHICAL CLEARANCE

The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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