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## Relation Assessment between some Factors and Diseases with Endometrial Hyperplasia in Salahuddin Province

### ABSTRACT:

**Background** Endometrial hyperplasia is relatively a common gynecological condition that affect women of all age groups. The aim was to find out the effect of some factors and diseases associated with endometrial hyperplasia in Salahuddin province during January 2003- December 2013.

**Material & Methods:** Random samples included 316 women attended Tikrit general hospital for curettage, hysterectomy, dilates and endometrial biopsy were collected.

**Results:** There are many factors and diseases which are associated with endometrial hyperplasia as weight, medication, abortion, hypertension, diabetes and polycystic ovarian syndrome (PCOS). Hypertension, diabetes and PCOS affect significantly more women with endometrial hyperplasia.

**Conclusion:** In conclusion, E.H is a multifactorial case and not depending on one factor. There are several factors affecting the E.H. Among these are the weight, age, as well as some diseases.

**Recommendation:** To carry out more studies related to E.H. in the province of Salahuddin. The effect of some medication as hormonal replacement may clear out more the condition with E.H.

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## Introduction

Most endometrial hyperplasia (E.H) is thought to be the result of persisted, prolong estrogen stimulation of the endometrium<sup>(1)</sup>. On this basis of estrogen excess, the condition which may lead to endometrial hyperplasia include; obesity, nulliparity, anovulation,, late menopause, Stein-Levantha Syndrome, estrogen ovarian tumors, in addition to exogenous stimulation through hormone replacement therapy<sup>(2)</sup>.

The importance of E.H came from two sources; clinical and pathological. Clinically, the condition is a common problem presented as abnormal uterine bleeding especially in the form of continuous bleeding<sup>(3)</sup>. While pathologically, some types of E.H might stimulate/or be precursors for endometrial carcinoma<sup>(4)</sup>.

This work aimed to find out the effect of some factors and diseases that are associated with endometrial hyperplasia in Salahuddin province during (2003-2013).

## Patients and Methods

Cross sectional study included 316 women simple random sample chosen from women attending Tikrit general hospital for curettage hysterectomy dilated, and endometrial biopsy. The study was performed from first January 2003 to the end of December 2013.

Exclusion criteria included cases with inadequate sampling or autolyzed tissue, and patients in which endometrial biopsy was performed to assess the state of ovulation (not for menorrhagia) were all excluded. Inclusion criteria included all women who were complaining of abnormal uterine bleeding, also women who attended to private laboratories for histopathological examination. Data were collected through a questionnaire records of the associated diseases with E.H as hypertension, diabetes, and polycystic ovarian syndrome (PCOS) as well as patient weight and medication.

## Results and Discussion

### 1. Weight relationship with endometrial hyperplasia (E.H):

Table (1) shows the results of this association. The highest percentage (32.6%) of E.H was found among the weight group (81-90) kg followed by the weight group (71-80) with a percentage of (29.8%). The weight group (91 and over) formed (16.3%). These results are in agreement with<sup>(5)</sup>, who found that, over weight women

have twice the risk of developing the disease than normal weight women. Most women estrogen is produced by her ovaries, but fat tissue can change by some other hormones into estrogen. Having more fat tissue can increase women estrogen level which increase her endometrial hyperplasia risk. The fat that accumulates in the body tissue result in a number of imbalances that lead to the emergence of various diseases, and obesity is the main cause of several diseases affecting women.

**Table -1- Distribution of women with endometrial hyperplasia among the weight groups**

Weight (Kg)	Frequency	Percentage
50	27	8.5%
61	41	12.9%
71	95	29.8%
81	104	32.6%
≥ 91	52	16.3%
Total	319	100.0

### 2. Medication and endometrial hyperplasia:

Table (2) shows the relation of some medication with endometrial hyperplasia. The present result showed

that taking some medication increases the prevalence of endometrial hyperplasia. Out of the total patient women included in the study 114 (35.7%) were taking hypertension

medication. This was followed by medication of inflammation, then the hormonal replacement medication<sup>(6)</sup>. The study proved that E.H. occurs in women taking hormone replacement therapy. Niwa, et.al<sup>(7)</sup> conducted in a study on mice to see the effect of Tamoxifen on endometrium.

The results showed an increase prevalence of pre-neoplastic lesions. The best representation to prove the effect of medication was based on the

data of Sommers<sup>(8)</sup>, which illustrate endometrial polyps progressing to cystic hyperplasia and then to adenomatous under the influence of estrogen<sup>(8)</sup>.

Also a study by Amen, et.al<sup>(9)</sup> proved that medication of hypertension effect on endometrium and cause endometrial hyperplasia. another study<sup>(10)</sup> proved that that medication of inflammation reduces endometrial hyperplasia.

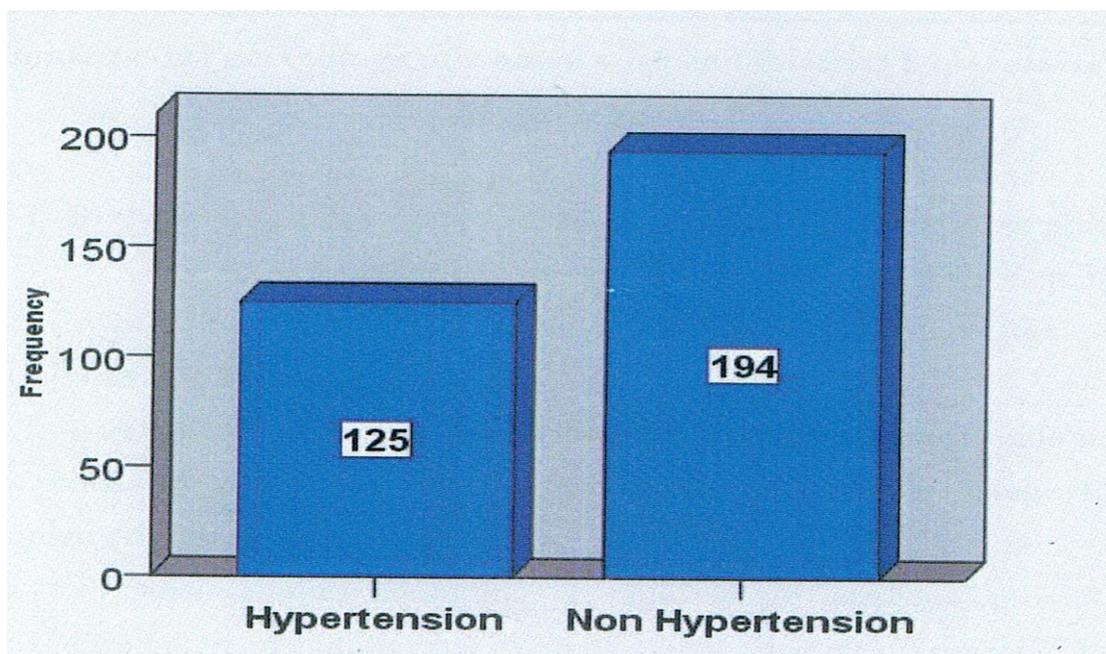
**Table -2- Medication relation with E.H**

Medication	Frequency	Percentage
Non-medication	12	3.8%
Medication of hypertension	114	35.7%
Medication of inflammation	99	31.0%
Hormonal replacement	94	29.5%
Total	319	100.0

### 3. Hypertension and E.H:

Out of the 319 cases, 125 patients were hypertensive (39.2%, while 194 (60.8%) (figure-2). The present results are disagree with Amen, et.al, <sup>(12)</sup> who conducted a study between March 2008

and June 2009, they proved that 24.44% were hypertensive women and 4% were not with endometrial hyperplasia. While Amera<sup>(11)</sup> found that hypertensive was common in patient with E.H (percentage of 20%).

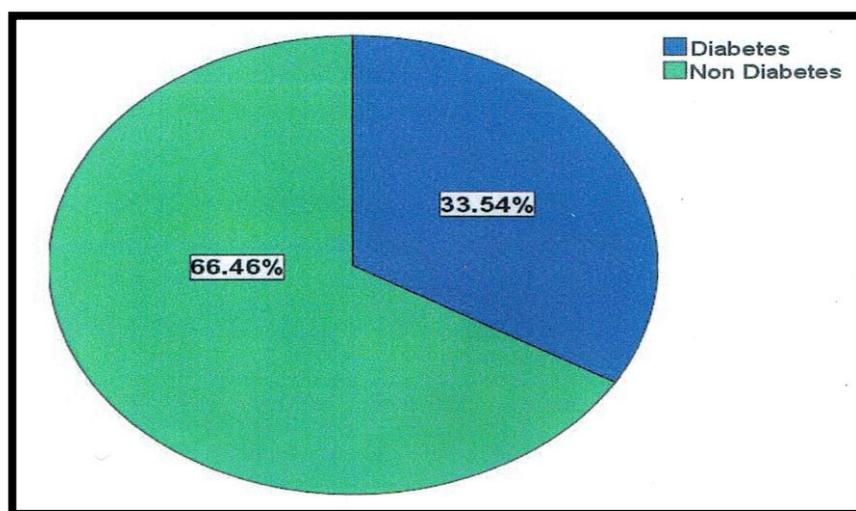


**Figure (2) Distribution women with endometrial hyperplasia by hypertension**

#### 4. Diabetes and E.H:

Diabetes was found in 107 (33.5%), while 212 (66.5%) were not diabetic (figure 3). A study<sup>(11)</sup> found diabetes in 13.3% of women with E.H. Other

studies also proved the association of endometrial hyperplasia and diabetes. Also a study<sup>(12)</sup> proved the increased incidence of diabetes among patients with endometrial hyperplasia.



**Figure (3) Percentage of women with endometrial hyperplasia by diabetes**

### 5. Polycystic ovarian syndrome (PCOS) and E.H:

The present results showed that 128 (40.1%) were with polycystic ovarian syndrome and 191 (59.9%) were not. Table (3) shows these results. The chance of endometrium in infertile women with PCOS will increase with age, obesity and endometrial thickness more than 7mm<sup>(13)</sup>.

Women with polycystic ovarian syndrome have abnormal levels, such

as high androgen (male hormone) and estrogen levels and lower levels of progesterone. The increase in estrogen relative to progesterone can increase a women chance of getting endometrial cancer. Anastasiadis, et.al<sup>(14)</sup> found that, the disease is increased by 35.7% in women with endometrial hyperplasia. Fearnly, et.al<sup>(15)</sup> proved that, women under 50 years old with PCOS have four times the risk of endometrial carcinoma.

**Table -3- Polycystic ovarian syndrome relation with E.H.**

PCOS	Frequency	Percentage
Women with PCOS	128	40.1%
Women without PCOS	191	59.9%
Total	319	100.0

### 6. Relationship between abortion and E.H:

Among the total women samples, 144 (45.1%) with endometrial hyperplasia have earlier abortion, while 175 (54.9%) women with endometrial hyperplasia have no abortion. Table (4) shows this. A study<sup>(16)</sup> found that, abortion when it is for the first time produce no effect on the female

reproductive system, but when the abortion occurred frequently it will have an effect, and so far has not proved the existence or relationship between abortion and endometrial hyperplasia. This explanation may have some agreement with the present results, because, the 54.9% of the total patients women are not exposed to abortion.

**Table -4- Relationship between abortion and endometrial hyperplasia**

State of abortion	Frequency	Percentage
Aborted women	144	45.1%
Non-aborted women	175	54.9%
Total	319	100.0

**7. Distribution of endometrial hyperplasia during the study period (2003-2013)**

During the study period (2003-2013), the highest frequency and percentage of aborted women was at the year 2013, 50 (15.7%). This value was lower in the previous years of 2013. Another increase in the number and percentages of aborted women at the year (2003) and (2004) and were 34 (10.7%) and 28 (8.8%) respectively. Table (5) shows these frequencies and percentages.

According to a study was done by Al-Timin and Al-Hilli (17) in the province of Hilla during the period

(2000-2009), they found that, endometrial hyperplasia was found in 167 out of the total number of cases (304), which was equal to 54.9%. their results agreed 100% with the result of the present work. So that table (5) shows an increasing tendency with years. This is due to several factors including pollutants in Salahuddin province and lack of health attention as well as the overall conditions which the country pass through during the study period. The high percentages of the years 2003 and 2004 (10.7% and 8.8%) are also be related to the whole conditional changes which Iraq pass through during that specific period, and its effect on psychology of women.

**Table -5- Frequency and percentage of women with endometrial hyperplasia during the years 2003-2013**

Study year	Frequency	Percentage
2003	34	10.7%
2004	28	8.8%
2005	22	6.9%
2006	20	6.3%
2007	25	7.8%
2008	29	9.1%
2009	26	8.2%
2010	29	9.1%
2011	24	7.5%
2012	32	10.0%
2013	50	15.7%
Total	319	100.0

### Conclusion:

In conclusion, E.H is a multifactorial case and not depending on one factor. There are several factors affecting the E.H. Among these are the weight, age, as well as some diseases.

### Recommendation:

The following points can be recommended:

To carry out more studies related to E.H. in the province of Salahuddin. The effect of some medication as hormonal replacement may clear out more the condition with E.H.

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