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Histopathological Findings of Uterine Sample in Women with Abnormal Uterine Bleeding

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ABSTRACT

Abnormal uterine bleeding considered as major gynecological problem in our community, the histological sectional study aimed to review the histopathological findings in uterine biopsies of 405 patients from different age groups who have been admitted to Al- Karama Teaching Hospital in Kut / Wasit Province/ Iraq which complained of abnormal uterine bleeding (AUB). The main object of this study was to identify histopathological pattern in both dilation and curettage (D&C) and hysteroctomized sample of women with AUB. A total of four hundred and five cases presented with AUB who was admitted for abdominal hysterectomy or D&C through the year 2022 period. This study relied on Hospital reports, history, examination of samples and adnexa after hysterectomy were sent for histopathalogical study. The histopathological results varies with age and parity in both types of samples. The results in this study showed that the highest percentage of abnormal uterine bleeding related with age group 41-50 years (72.8%), while the lowest percentage with age group above 50 year (12.3%). uterine Fibroid (cellular Leiomyoma) was the most common histopathological findings (24%) especially in 41-50 age group, and the lowest percentage with Leiomyosarcoma (0.2%) and Endometrial carcinoma (1.2 %). The finding from this study concluded that cellular Leiomyoma formed the popular of total samples that attend the hospital for hysterectomy followed by Hyperplasia without atypia (17.5%). There was some cervical lesion distributed as Nabothian cyst (12.5%), chronic cystic cervicitis (11.3%) and endocervical polyp (2.2%).

Keywords: *Abnormal uterine bleeding, Histopathological findings, Uterine Curettage, Hysterectomy*

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INTRODUCTION

Abnormal uterine bleeding (ABU) is a broad term that describes irregularities in the menstrual cycle involving frequency, regularity, duration, and volume of flow outside of pregnancy (Whitaker and Critchley, 2016). ABU considered one of the most common and important gynecological complaint with a prolonged list of functional or organic causes in different age groups (Moradan et al., 2017). ABU may be affected by a wide diversity of condition such as endocrine conditions or drugs, and may be related to pregnancy, anovulation, leiomuoma, polyps and neoplastia (Anuradha and Premlata, 2015).

The prevalence of ABU among reproductive aged women globally is estimated to be between 3-30%, with a greater incidence occurring around menarche and perimenopause. Many researches are limited to heavy menstrual bleeding, but when irregular and intermenstrual bleeding is considered, the prevalence rises to 35% or greater (Munro et al., 2014). Curettage or an endometrial biopsy is a cost effective and safe diagnostic procedure for endometrium sampling and evaluation in a patient offered with abnormal uterine bleeding (Abdelazim et al., 2015). Hysterectomy is an invasive surgical option which usually is recommended only after AUB therapies failed and for women who do not wish to retain their fertility (Rahiem et al., 2016). Histopathological examination of endometrial curettage can issue diagnosis for wide range of both normal and abnormal changes like hormonal effects exogenous, hyperplasia, carcinoma, and infections that helping the gynecologist in patient management (Ghani et al., 2013). The goal of this study is to review the different histopathological diagnosis categories encountered in uterine biopsies in woman with abnormal uterine bleeding and the frequency of each category.

MATERIALS AND METHODS

A total 405 woman from different age divided into three groups who offering with abnormal uterine bleeding and admitted for curettage and total abdominal hysterectomy, all uterine specimens were collected during the period of 2022 year in Al Karama Teaching Hospital / Kut / Wasit Province / Iraq. All of woman after acceptance to enrolled in this study, relevant medical, gynecological, socio-demographic characteristics were gathered using special questionnaires that include: age, parity, history of prior menstrual history like form of bleeding and date of last menstrual period. Endometrial samples from dilatation and curettage D&C or total hysterectomy were collected and transported in 10% formalin solution to the pathology lab. All tissue sections were dehydrated, cleared, embedded in paraffin wax then sectioned into 4-6 µm sections then stained routinely with hematoxyline and eosin stain, microscopic examination was performed by pathologist.

RESULT

The patients were distributed into three groups according to the age, and two categories of endometrium samples as one hundred and fifty five endometrial samples taken by curettage and two hundred and fifty endometrial samples taken through total abdominal hysterectomy TAH (table 1):

First group (less than 40 years old 20-40 year) 60 patients (14.8%) with (57.4%) D&C specimens and (10%) TAH. Second group 41-50 year (perimenapausal) 295 patients (72.8%) with 57.4 D&C specimens and 58 TAH. Third group (above 50 years old): 50 patients (12.3%) with 12.9% D&C and 32% TAH.

TABLE 1: Age groups and operation type related with age

Age Groups	Numbers	D &C	TAH
20-40	60 14.8%	89 57.4%	25 10%
41-50	295 72.8%	46 29.6%	145 58%
>50	50 12.3%	20 12.9%	80 32%
Total	405 99.9%	155 99.9%	250 100%

The percentages of histopathological causes were as follows: Cellular Leiomyoma (24%), Hyperplasia without atypia (17.5%), Proliferative endometrium (7%), Adenomyosis (6%), disordered proliferative endometrium and endometrial polyp (4%), Atypical endometrial hyperplasia (2.7%), Atrophic endometrium (2.4%), Secretory endometrium and H. mole (1.7%), Endometrial carcinoma and hormonal imbalance (1.2%). Cervical lesion percentage as Nabothian cyst (12.5%), Chronic cystic cervicitis (11.3%), endocervical polyp (2.2%). and one case (0.2%) was diagnosed as Leiomyosarcoma (table 2)

TABLE 2: Numbers and percentage of organic and functional histopathological causes

Types	Number	% Percent
Secretory endometrium	7	1.7
Proliferative endometrium	31	7
Atrophic endometrium	10	2.4
Disordered proliferative endometrium	15	4
Hyperplasia without atypia	71	17.5
Atypical endometrial hyperplasia	11	2.7
Adenomyosis	24	6
Endometrial carcinoma	5	1.2
Cellular Leiomyoma	97	**24**
Leiomyosarcoma	1	**0.2**
endometrial polyp	15	4
endocervical polyp	9	2.2
Nabothian cyst	51	12.5
Chronic cystic cervicitis	46	11.3
H. mole	7	1.7
Hormonal imbalance	5	1.2
Total	405	99.1

The distribution of histopathological causes of the AUB according to age group was as the following (table 3):

Secretory endometrium form was seen more commonly in below 40 years of age (57.1%) , proliferative pattern was seen most commonly in 41-50 age group premenopausal (64.5%), Atrophic endometrium was common in premenopausal (80%), Disordered proliferative endometrium was found only in 41-50 age group (15 patients), Hyperplasia without atypia was higher in 41-50 age (86%), Atypical endometrial hyperplasia was more common in >50 age group age group (82%), Adenomyosis was common in premenopausal group (79.9%), Endometrial carcinoma was seen only in >50 age group (5 patients), Cellular Leiomyoma was higher in >50 age group (36%), Leiomyosarcoma showed only in one case in >50 age group, endometrial polyp was higher in >50 age group (47%), endocervical polyp was common in premenopausal group (78%), both Nabothian cyst and Chronic cystic cervicitis was common in premenopausal group (68.9%) and (63%) respectively, H. mole was seen only in 20-40 age group (7 patients). Finally Hormonal imbalance was more common also in 20-40 age groups (60%).

TABLE 3: The pathological states of uterine bleeding according to the age groups

Pathological states	Age Group (years) and Percentage			Total and percentage
	20-40	41-50	>50	
Secretory endometrium	4 57.1	2 28.5	1 14.2	7 99.8
Proliferative endometrium	3 9.6	20 64.5	8 25.8	31 99.9
Atrophic endometrium	0 0	8 80	2 20	10 100
Disordered proliferative endometrium	0 0	15 100	0 0	15 100
Hyperplasia without atypia	0 0	61 86	10 14	71 100
Atypical endometrial hyperplasia	0 0	2 18.1	9 82	11 99.9
Adenomyosis	0 0	19 79.9	5 21	24 100
Endometrial carcinoma	0 0	0 0	5 100	5 100
Cellular Leiomyoma	6 0	56 58	35 36	97 94
Leiomyosarcoma	0 0	0 0	1 100	1 100
endometrial polyp	5 33.3	3 20	7 47	15 100
endocervical polyp	2 22.2	7 78	0 0	9 99.9
Nabothian cyst	2 4	35 68.9	14 27.4	51 100
Chronic cystic cervicitis	3 6.5	29 63	14 30.4	46 99.8
H. mole	7 100	0 0	0 0	7 100
Hormonal imbalance	3 60	1 20	1 20	5 100
Total	35 8	258 63	121 29	405 100

DISCUSSION

During any standard menstrual cycle, under stimulation of estrogen hormone the menstrual shedding is followed by endometrial proliferation. Through this phase that called the proliferative phase, the endometrial glands grow and become tortuous. In the second half of the menstrual cycle which is the secretory phase, there will be endothelial proliferation, thickening of the wall and coiling, forming the spiral arterioles on the ninth postovulatory day (Munro et al., 2018).

The results obtained from this study revealed that the most communal ABU related to age group were perimenapausal age, this results come to an agreement with Rahiem et al. 2016 ,who found that most patients with ABU related to (41-50 years) and also in concordance with Anuradha et al. 2015, that the common of patients were (40-49 years), the reason may be due to that the patients in their climactric period with reduction in ovulatory reserve and decrease estradiol level which leading to frequent unovulation and ABU, and less findings in age above 50 (70-85 years) due to early diagnosis of condition in young age and adequate treatment therefore decreasing in total age which agreed and accepted with the same results by Doraiswami et al. 2011.

After excluding pregnancy related causes and hormonal imbalance, among women undergoing hysterectomy uterine fibroid (Cellular Leiomyoma) was the highest histopathological state 97 patient and the frequency increase with age peak in (46-57years) age group probably due to menopausal alterations that lead to atrophy of the uterus and reduction in the hormones production. Endometrial hyperplasia was a common finding after fibroid particularly in perimenopausal women causing irregular or prolonged bleeding due to an ovulatory cycles (10). The incidence of endometrial hyperplasia according to the results was (71% non typical, 11% atypical) which was nearly similar to a study done by Moradan et al. 2017, Endometrial hyperplasia is a precursor of endometrial cancer and this findings accepted with The incidence of endometrial hyperplasia without and with atypia findings studied by Reed et al.; 2009 and Al Mola and Abdullah, 2004 who records peaks of endometrial hyperplasia in the early 50s and early 60s respectively. The incidence of atrophic endometrium in this study was 2.4%, other studies showed a nearly similar number like Shah et.al., 2014 There was Some remarkable findings showed in this study revealed that there was rare state or hysterectomy specimens identified with Leiomyosarcoma and endometrial or adenocarcinoma (1 and 5 patient respectively) in woman more than 50 age group 55-60 years.

The total occurrence of endometrial polyps was 15% that increases with age according to the results of this study which agree with Mirza et al., 2012 findings that endometrial polyp was found in 12% of the patients with abnormal uterine bleeding , while other studies (8,12, 15) reported a lower incidence (1.3%, 1.24% and 0.6% respectively). Endocervical polyp incidence in general is 9 %. This is comparable to what's found in this study (2.4%) and Soleymani, 2014 while Talat Mirza et al., 2012 found that the incidence of endocervical polyp was 8%.

In conclusion, AUB usually affected women of premenopausal age and high parity which is needs through estimation. The gold standard diagnostic and therapeutic tool in patients with ABU was endometrial biopsy. Fibroid (cellular leiomyoma) constitute the majority of cases of hysterectomized sample followed by endometrium hyperplasia (without atypia). Some cervical lesions include chronic cystic cervicitis, endocervical polyp and Nabothian cyst showed from hysterectomized specimens.

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