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Research Article

Patterns of endometrial pathology at Tikur anbessa specialized teaching hospital, Addis Ababa university, Ethiopia. A retrospective study

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ABSTRACT

Conditions affecting the endometrium can be classified as benign or malignant. Benign endometrial histology includes atrophy, proliferative endometrium, secretory endometrium, disordered or dyssynchronous endometrium, and endometritis. Endometrial biopsy samples taken by gynecologists are among the most frequent daily activities. This study was done to evaluate histopathology of endometrium for identifying the endometrial causes of complaints among women for whom endometrial biopsy was done. A five year retrospective descriptive study was conducted in Tikur Anbessa Specialized Teaching Hospital (TASTH) from April 2008 to May 2013 involving 448 patient records. The data was collected using Structured, self-prepared questionnaires. All women who had undergone endometrial biopsy were collected from pathologic unit of the hospital and the card of patients retrieved from the registrar. SPSS version 20.0 was used for data entry and analysis and logistic regression was used to identify the predictor variables. The mean and median age of the study patients were 36.75 + 10.41 and 35, respectively and 62.5% of the study participants were multi-parous. The commonest AUB was Metromenorrhagia. The commonest pattern in these patients was normal cycling endometrium (44.9%). Endometrial polyp (15.2%), complications of pregnancy (9.2%), atrophic endometrium (5.8%) and TB endometritis (4.5%) were in the abnormal findings. Risk of pregnancy complications and Tuberculosis were found to be higher in those women aged 35 or younger. Atrophic endometrium and polyp were significantly associated with in patients with age of above thirty five. Abnormal endometrial histopathological findings were found to be high. Endometrial polyp, atrophic endometrium and hyperplasia were significantly associated with women above the age of 35. We recommend for more and further prospective studies on pathologies involving the endometrium and our history taking and physical examination need to be focused.

Key words: Atrophy, Black lion, endometrial polyp, Endometrium, women

INTRODUCTION

The endometrium is the inner most part of the uterus where the blastocyst implants and grows after fertilization of the ovum by the spermatozoa[1]. It consists of two layers: the basalis layer, which lies against the myometrium, and the functionalis layer, which is opposed to the uterine lumen. The basalis layer, which does not change significantly across the menstrual cycle, is critical for regeneration of the endometrium following menstrual sloughing [1]. After menstruation, the endometrium is only one to two millimeters thick. Under the influence of estrogen, the glandular and stromal cells of the functionalis layer proliferate rapidly following menses. This period of rapid growth, termed the proliferative phase, corresponds to the ovary's follicular phase[1.] The normal endometrium is only few millimeters (mm) thick with normal thickness being 5mm or less. It is one of the female genital organs that is affected by the female sex hormones in the woman` s reproductive life and other conditions such as infection. Endometrial biopsy samples taken by gynecologists are among the most frequent tissue specimens encountered in the daily clinical practice of most pathologists. Major indications for endometrial biopsy include abnormal

uterine bleeding (AUB), retained products of conception, workup of women with infertility and monitoring patients undergoing exogenous hormonal therapy and follow up of patients with endometrial hyperplasia who are medically managed[1]. The development of equipment and techniques for office-based endometrial biopsy recently has generally replaced the need for diagnostic dilation and curettage (D & C) performed in the hospital because of the Advantages it possesses[1].

Endometrial sampling using MVA offers a number of advantages compared with dilation and curettage (D&C). These advantages include: procedure can be done in outpatient basis, rather than in an operating room, can be performed without anesthesia or with only local anesthesia, minimal or no cervical dilation is required, the risk of uterine perforation is decreased (office endometrial sampling: 0.1 to 0.2 percent versus dilation and curettage: 0.3 to 2.6 percent), operating time is brief with an average time of approximately 5 to 15 minutes and less expensive Endometrial sampling requires a good histologic specimen of adequate volume for the pathologist to identify endometrial pathology, and the adequacy of the sample may depend upon the operator's technique. Endometrial causes of complaints are some of the most common reasons why women seek Gynecology visits in routine clinical practices, and yet they are one of the challenges for the gynecologists who follow these women in need. It has spectrum of manifestations as AUB, Infertility, Postmenopausal vaginal bleeding or pregnancy related bleedings[2]. It can be an acute life threatening condition as in pregnancy related conditions or one that makes quality of life and survival diminished with cases of DUB and malignancies, respectively, if it doesn`t get early attention and appropriate management of the respective pathology[2].

Conditions affecting the endometrium can be classified as benign or malignant[1]. Benign endometrial histology include atrophy (absence of a hormonal effect), proliferative endometrium (estrogen effect), secretory endometrium (progestin effect), disordered or Dyssynchronous endometrium (irregular shedding of the endometrium secondary to unopposed estrogen), and endometritis[1]. Further endometrial assessment should also be considered when the endometrial biopsy is nondiagnostic, but a high suspicion of cancer remains[1].

The indications for Endometrial Biopsy include: Abnormal uterine bleeding (AUB), Postmenopausal bleeding (PMB), Amenorrhea of a year or longer, Evaluation of women with infertility, uterine response to hormonal therapy, Findings of atypical glandular cells in Pap smear and follow-up of patients with previously diagnosed endometrial hyperplasia[3,4]. Some of the Contraindications against Endometrial Biopsy sited are[3,4]: Pregnancy, Acute Pelvic Inflammatory Diseases (PID), Acute cervicitis, Clotting disorders.

Sampling of the endometrium should be considered in all women over 40 years of age with abnormal bleeding or in women who are at higher risk of endometrial cancer, including: nulliparity with a history of infertility; new onset of heavy, irregular bleeding; obesity (≥ 90 kg); polycystic ovaries; family history of endometrial and colonic cancer and on tamoxifen therapy.[5]

In developing countries like Ethiopia, endometrial biopsy is being practiced using MVA as diagnostic modality for women with AUB, Infertility or in those with suspected genital TB. Those diagnostic modalities are particularly performed in tertiary centers, private set ups and urban settings.

SIGNIFICANCE OF THE STUDY

To explore the socio-demographic characteristics and some gynaecologic characteristics and the association of the specific pathologic endometrial findings. This study will have a definite benefit in identifying the patterns of endometrial pathology so that it may help for allocating appropriate resources' in TASTH. Furthermore, the result can be used as base line for further prospective studies.

OBJECTIVES

General Objective

- To assess the patterns of endometrial pathology in women for whom endometrial biopsy was done from April 2008 to May 2013 in Tikur-Anbessa specialized Teaching Hospital, AAU, Addis Ababa.

Specific Objectives

- To describe the socio-demographic characteristics of women for whom endometrial biopsy was done
- To describe the indications for endometrial biopsy
- To describe the patterns of benign endometrial pathology in women for whom endometrial biopsy was done
- To describe the patterns of malignant endometrial pathology in women for whom endometrial biopsy was done
- To describe the patterns of infectious causes of endometrial pathology in women for whom endometrial biopsy was done

METHODS

Study area and design

This retrospective descriptive study was conducted at Tikur-Anbessa specialized Teaching Hospital, which is one of the referral and teaching hospitals in Addis Ababa, the capital city of Ethiopia. The hospital serves as a central referral centre for the nation as whole. The hospital is located on a street named after Sir Winston Churchill in Addis Ababa. Tikur-Anbessa University Hospital is a 560 bed central referral hospital that provides general medical services for a city of over 3 million people, and those referred from other parts of a country of more than 82 million people. Sixty five (65) beds in the hospital are dedicated for elective Gynecologic and obstetric admissions. The Tikur Anbessa Specialized Teaching Hospital is the only

public hospital providing tertiary services in Ethiopia, particularly for oncologic patients.

Study period

The study was conducted from April 2008 to May 2013 G.C.

Source population

All women who had presented to Tikur-Anbessa specialized Teaching Hospital for a gynaecologic evaluation during the study period.

Study Population

All women who have undergone endometrial biopsy in Tikur-Anbessa specialized Teaching Hospitals during the study period.

Inclusion Criteria

- All women with endometrial biopsy for suspected endometrial pathology done during the study period.

Exclusion Criteria

- Poorly registered medical records (incomplete data)
- Women with Cervical cancer who had endometrial biopsy

Sample Size

All women who had undergone endometrial biopsy during the study period.

Data Collection

Structured, self-prepared and anonymous questionnaires were used to collect the data from the patients' personal cards. The questionnaire was designed to include socio-demographic characteristics, reproductive characteristic, some risk factors, the indication for the endometrial biopsy and the histopathological findings.

All women who had undergone endometrial biopsy for diagnostic or therapeutic purposes and those having the histopathology result were retrieved from Tikur-Anbessa Specialized Teaching Hospital (TASTH) pathology department. And then the patients` cards were retrieved from the card keeping unit of the hospital using the card numbers as a reference.

Data collectors were residents who were oriented on the study objectives and data collection tool with close supervision from the principal investigator. The principal investigator had conducted data clearing and entry.

Study Variables

Dependent variables (outcome variable):

- Type of pathology (histological finding

Independent variables:

- Socio demographic characteristics: Age, Marital / relationship status, residence, address
- Reproductive History: parity
- Menstrual History: Age of menarche,
- History of AUB, Type of AUB, Age of Menopause
- Contraceptive history: history of contraceptive use, Type of contraceptive use
- Indications for endometrial biopsy

Data Entry and Analysis

After completing filling the questionnaires, the data were entered and analyzed using SPSS version 20 statistical software. Results were presented using frequency tables, bar graphs and percentages. Measurements of central tendency like mean and median were used where appropriate. Data entry into the questionnaires and later in to computers and analysis were undertaken by the principal investigator. Data quality was ascertained by using all available data sources checking for consistency. Association between variables was tested using chi-square test at the level of statistical significance of 5%.

Ethical Issues

Ethical clearance was obtained from the research & publication committee of the Department of Obstetrics & Gynecology, AAU, Medical faculty. Confidentiality was kept by avoiding recording of names of clients on data collection format, client records were made available to the investigator and data collectors and returned to its place after completion of data entry. Permission to collect data was obtained from the department heads of Ob-Gyn and pathology, card room and medical directors' offices of TASTH.

RESULT

Socio-demographic Characteristics

A total of 526 patients were retrieved from the pathology report from the department of pathology out of which 458 patient records were obtained from the registrar (card room) and 10 of the records had incomplete data and hence they were excluded. A total of 448 patient records were analyzed with the card retrieval rate of 87.5 %. The mean and median age of the study patients were 36.75 $\pm$ 10.41 and 35.00 years respectively, with minimum value of 18 and maximum of 78 years. Three hundred fifty (78.1%) of the patients were married and the majority (65.8%) of them were from Addis Ababa. Only 19.2% of them were treated for free and 62.5% of the study participants were multi-parous **(Table 1).**

Table 1: Socio demographic characteristics of Patients with endometrial biopsy in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C (n=448), Addis Ababa, Ethiopia.

Patient characteristics		Frequency	Percent
Age (years)	<20	4	0.9
	20-24	29	6.5
	25-29	79	17.6
	30-34	74	16.5
	35-39	103	23.0
	40-44	64	14.3
	45-50	51	11.4
	>50	44	9.8
Place of residence	Addis Ababa	295	65.8
	Out of Addis	153	34.2
Mode of payment	Free	78	17.4
	Self	362	80.8
	Unknown	8	1.8
Parity	Nullipara	168	37.5
	Para I	77	17.2
	Para II-IV	136	30.4
	Para V+	67	15
Marital Status	Married	350	78.1
	Single	32	7.1
	Divorced	23	5.1
	Widowed	15	3.3
	Unknown	28	6.3

Menstrual Characteristics

Out of the total patients with endometrial biopsy, three hundred twenty seven (73%) had a history of abnormal uterine bleeding (AUB). The commonest AUB type was Metromenorrhagia accounting for 26.1% followed by

Menorrhagia (23.6%) and Metrorrhagia (20.6%) (Fig.1).

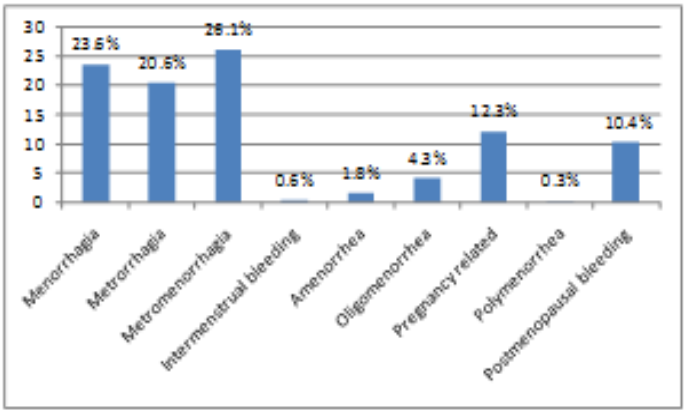

Figure1. Patterns of Abnormal Uterine Bleeding in patients with endometrial biopsy in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C (n=448), Addis Ababa, Ethiopia .

Only forty-four (9.7%) participants knew their age of menarche with the mean and median age being 14.3 ± 1.6 and 14.5 respectively. The minimum and maximum ages of menarche were 10 and 17 years respectively. With regard to menopause, mean and median ages were 47.3 ± 3.3 and 48 years respectively with minimum (41years) and maximum (54 years).

Contraceptive History

Fifty-nine (13%) of the participants had used at least one form of contraceptives for either therapeutic or contraceptive purposes in their life time, with 6.2% of the patients` contraceptive use status being unknown. The comments contraceptive used was OCP (Combined or minipills) accounting for about 10% of the cases followed by injectables (2.6%), implants (0.2%) & Tubal ligation (0.2%) of the participants.

Indication for Endometrial Biopsy

The commonest indication for endometrial biopsy in this study was AUB not related to pregnancy accounting for 273 cases (60.9%) followed by Infertility and lower abdominal / pelvic pain accounting for 18.9% and 10.7% respectively. The remaining 42(9.4%) biopsies were done for pregnancy related complications **(Table 2)**.

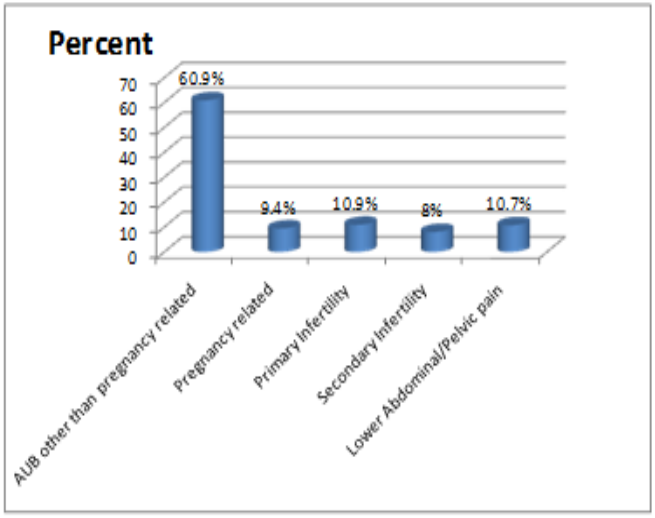

Figure 2. Frequency and percentage distribution Of Endometrial Biopsy by Indication in Patients with endometrial biopsy in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C (n=448), Addis Ababa, Ethiopia .

5.5 *Distribution of Endometrial Biopsy by Histopathologic Report*

The main histopathologic findings for endometrial biopsy were secretory Endometrial changes, which accounts for 120 (26.8%), Proliferative Endometrial Changes for 81 (18.1%),

Endometrial Polyp for 68 (15.2%), Pregnancy Related Complications accounting for 48 (10.8%). Uterine malignancies were diagnosed only in 5 cases (1%), out of which 4 cases (0.8%) were endometrial carcinoma and 1(0.2%) MMMT, where as TB Endometritis was found in 20 cases of endometrial biopsies (4.5%). Thirty three (7.3%) cases of endometrial biopsy specimens were said to have Inconclusive histology results. The details of the histology distribution are showed in **(Table 3).**

Table 1: Frequency and percentage distribution Of Endometrial Biopsy by Indication in Patients with endometrial biopsy in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C (n=448), Addis Ababa, Ethiopia.

Indication	Number	Percent
AUB other than pregnancy related	273	60.9
Primary Infertility	49	10.9
Lower Abdominal/Pelvic pain	48	10.7
Pregnancy related	42	9.4
Secondary Infertility	36	8.0
Total	448	100.0

Table 3: Frequency and percentage distribution of histopathologic reports in patients with endometrial biopsy in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C (n=448), Addis Ababa, Ethiopia.

Histology		Number	Percent
1. Secretory Endometrial Changes		120	26.8
2. Proliferative Endometrial Changes		81	18.1
3. Endometrial Polyp		68	15.2
4. Pregnancy related complications (10.8%)	Products of conception	41	9.2
	Complete mole	7	1.6
5. Inconclusive		33	7.4
6. Atrophic Endometrium		26	5.8
7. TB Endometritis		20	4.5
8. Nonspecific Endometritis		13	2.9
9. Endometrial Hyperplasia (3.1%)	Simple without Atypia	10	2
	Complex without Atypia	4	1.1
10. Luteal Phase Defect		9	2.0
11. Disordered (Dyssynchronous) Endometrium		6	1.3
12. Leiomyoma		5	1.1
13. Endometrial Carcinoma (0.8%)	Papillary serous	3	0.6
	Adenocarcinoma- Villogladular	1	0.2
14. Uterine Sarcoma (MMMT)		1	0.2

5.5 *Association of Abnormal Histological Findings with the Socio-demographic Characteristics*

In this study, associations of socio-demographic variables with pregnancy related complication and endometrial hyperplasia were investigated. Patients in the age of 35 and younger were almost ten times more likely **(OR= 9.89, 95% CI: 3.84-25.5)** to face pregnancy related complications than patients above age of 35. Regarding patients parity the odds of pregnancy related complications were about six times (**OR= 6.16, 95% CI: 1.73-35.80)** higher among patients with Para II-IV than that of the others. Endometrial hyperplasia was higher among patients above the age of 35 and older (**OR=1.42, 95%CI: 1.30, 4.69).** Null parity was associated with risk of developing endometrial hyperplasia by two fold than multiparty (OR=**2.60, 95% CI: 2.01, 5.32).** On the other hand the associations of socio-demographic variables with endometrial poly, TB Endometritis and atrophic endometrium were investigated. Patients above the age of 35 years were two times **(OR= 2.50, 95% CI: 1.44, 4.32)** more likely to face endometrial polyp than patients aged 35 or younger. TB Endometritis was higher among patients below the age of 35 **(OR=4.43, 95% CI: 1.33, 12.28).** Atrophic Endometrium was significantly associated with patient's age. It was almost fifteen times higher among patients above age of 35(OR=**3.7, 95%CI: 1.23, 5.46)** (**Table 4).**

Table 4: Association of Abnormal histological findings with the socio-demographic characteristics in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C (n=448), Addis Ababa, Ethiopia.

Patient Characteristics		Pregnancy-related complication		P-Value	OR 95% C.I
		No	Yes		
Age in yrs	≤35	186 (81.2%)	43(18.8%)	0.00	**9.89(3.84-25.5)**
	>35	214(97.7%)	5(2.3%)	0.98	1.00
Parity	Nullipara	162(96.4%)	6(3.6%)	.067	1.00
	Para I	66(85.7%)	11(14.3%)	.050	4.39(.99-19.34)
	Para II-IV	121(88.9%)	15(11.0%)	.008	**6.16(1.73-35.80)**
	Para V+	51(76.1%)	16(23.9%)	.180	2.86(.61-13.3)
Endometrial hyperplasia					
Age in yrs	≤35	223(97.4%)	6(2.6%)		1.00
	>35	211(96.3%)	8(3.7%)	.014	**1.42(1.30-4.69)**
Parity	Nullipara	162(96.4%)	6(3.8%)	.046	**2.60(2.01-5.32)**
	Para I	73(94.8%)	4(5.2%)	.060	.412(.09-1.72)
	Para II-IV	133(97.8%)	3(2.2%)	.223	.308(08-1.13)
	Para V+	66(98.7%)	1(1.3%)	.076	1.00
Endometrial Polyp					
Age in yrs	≤ 35	207(90.4%)	22(9.6%)	.092	1.00
	>35	173(61.3%)	46(38.6%)	.001	**2.50(1.44-4.32)**
TB endometrites					
Age in yrs	≤ 35	225(98.3%)	4(1.7%)		1.00
	>35	203(92.7%)	16(7.3%)	0.014	**4.43(1.33-12.28)**
Atrophic endometrium					
Age in yrs	≤ 35	223(97.4%)	6(2.6%)	0.997	1.00
	>35	199(90.9%)	20(9.1%)	0.003	**3.7(1.23-5.46**

Out of the total 448 women who had gynecologic evaluation, one hundred twenty two (27.3%) reported one form of infertility with 45 (10%) of them having unknown history in their infertility status. The commonest histopathologic finding among those women who seek gynecologic evaluation for infertility was secretory endometrium accounting for 38.5%) of all the histology followed by Proliferative endometrial changes (18.8%), endometrial polyp (15.6%) and TB endometritis (12.3%) (Table 5).

Table 5: Association among women having Infertility against Histopathology findings in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C, Addis Ababa, Ethiopia

Infertility	Histopathology														Total
	Pregnancy related	Secretory Endometrium	Proliferative Endometrium	Endometrial Hyperplasia	Endometrial Carcinoma	Atrophic Endometrium	Nonspecific Endometritis	TB Endometritis	Leiomyoma	Endometrial Polyp	Inconclusive	Uterine Sarcoma	Luteal Phase defect	Disordered endometrium	
Yes	3	47	23	1	0	0	3	15	0	19	6	0	4	1	122
No	42	61	51	11	3	24	9	5	4	40	23	1	3	4	281
UK	3	12	7	3	0	2	1	0	1	9	4	0	2	1	45
Total	48	120	81	15	3	26	13	20	5	68	33	1	9	6	448

Metrorrhagia was the most common AUB type identified in those with secretory histologic finding (9.8%) followed by Menorrhagia (6.7%) and metrorrhagia (4.6%). There were similar findings for Proliferative endometrium. Postmenopausal bleeding is the leading histology finding in those with endometrial hyperplasia accounting for 2.1% of AUB with Menorrhagia, Metrorrhagia and metromenorrhagia having equal share (0.6%) (**Table 6**). Out of the 34 patients presenting with Post menopausal bleeding 14 (41.2%) had atrophic histology, 7 (20.6%) had endometrial hyperplasia, 4 (11.8%) had inconclusive histology, 3 (8.8%) had endometrial cancer and another 3 (8.8%) had endometrial polyp. In the remaining three patients, each woman had Secretory Endometrium or Proliferative Endometrium or Nonspecific Endometritis as their final histologic diagnosis From the 252 women with AUB other than pregnancy related AUB and Post menopausal bleeding, nearly one third of them 72 (28.6%) had secretory endometrium, 62 (24.6%) had proliferative pattern, and 48 (19.0%) had endometrial polyp.

Table 6: Association among women with different menstrual pattern versus Histopathology findings in Tikur Anbessa specialized hospital, April 2008 to May 2013 G.C, Addis Ababa, Ethiopia

Menstrual pattern	Histopathology													
	Pregnancy related	Secretory Endometrium	Proliferative Endometrium	Endometrial Hyperplasia	Endometrial Ca	Atrophic Endometrium	Nonspecific Endometritis	TB Endometritis	Leiomyoma	Endometrial Polyp	Inconclusive	Luteal Phase defect	Disordered endometrium	Total
Menorrhagia	2	22	18	2	0	2	4	3	1	10	10	2	1	77
Metrorrhagia	3	15	20	2	0	5	0	1	1	12	5	2	1	67
Metromenorrhagia	0	32	15	2	0	1	1	0	1	21	6	3	3	85
Intermenstrual bleeding	0	0	1	0	0	0	0	0	0	0	1	0	0	2
Amenorrhea	0	0	0	0	0	0	2	2	0	1	1	0	0	6
Oligomenorrhea	0	2	5	0	0	0	0	3	0	4	0	0	0	14
Pregnancy related	40	0	0	0	0	0	0	0	0	0	0	0	0	40
Polymenorrhea	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Postmenopausal bleeding	0	1	1	7	3	14	1	0	0	3	4	0	0	34
Total	45	73	60	13	3	22	8	9	3	51	27	7	5	326

DISSCUSSION

The endometrium is one of most commonly biopsied structure because it is a site for potentially serious upper genital tract infections and non-infectious conditions. At the same time, it is easily accessible for biopsy. In this study, endometrial histopathologic reports showed that, Secretory Endometrial Changes were the commonest one accounting for 26.8% of cases followed by Proliferative Endometrial Changes (18.1%);

endometrial polyps (15.2%); and Pregnancy-related complications (10.7%) with mean age of study patients being 36.75 ± 10.41.The findings of Secretory and Proliferative Endometrial Changes were found to be comparable with the study conducted in India which account for 28.4% and 20.5% respectively. It was also comparable with a prospective study done in Gandhi Memorial Hospital (GMH), Ethiopia which accounts 15.2% for the secretory endometrial changes[13, 21]. However, lower than study done in Nigeria Gynecological clinic of UMTH where the normal secretory endometrium was observed in 47.1% of the 255 patients analyzed while 8.6% showed a proliferative pattern. In that study (UMTH), 43.1% of the patients had shown some form of endometrial abnormalities and this is comparable with the present study`s finding (47.9%)[17].

The result of Endometrial Polyp was found to be consistent with the study done in a Danish population aged 20-74 years with prevalence of endometrial polyp being 7.8% (48/619; 95% CI, 5.6-9.9%).The prevalence was influenced significantly by age (P<0.005); in women below the age of 30 years. It was also comparable with the retrospective study conducted in Abuja, Nigeria in a 290 endometrial biopsy specimens in women's health showing that, endometrial polyps was common in 7.6% of the patient aged between 17–75 years[15].

Pregnancy related complications (10.7%) were found to be consistent with the retrospective study conducted in women in Helping Hands Community Hospital, Kathmandu, Nepal which were submitted with the diagnosis of AUB out of which 9% had pregnancy related complications[11]. However lower than a prospective study of 620 patients presenting with AUB conducted in Sri Ramachandra Medical College and Research Institute, India in which pregnancy related complications accounted for 22.7% of the cases. And it was also lower than a retrospective study of 290 endometrial biopsy specimens conducted in Abuja, Nigeria in women's health which has accounted for 65.1% of cases[13,15].

In this study the most common indications for endometrial biopsy were, 315 (70.3%) AUB followed by 49 (10.9%). Primary Infertility, this was comparable with the prospective study conducted in Gandhi Memorial Hospital (GMH), showing Abnormal uterine bleeding (AUB) was the main reason for the procedure accounting for about 87.8% of the endometrial biopsy indications. Biopsy for infertility dating accounted for 10.3. The majority of the study population that was subjected for histopathological investigation was in the age group 35-39 years and accounted for 27% [21]. The finding of Atrophic endometrium (5.8%) was found to be much lower than studies conducted in Jamaica, University of the West Indies which accounted for 21.3% of the cases; however, non-diagnostic finding was (19.9%) was higher than that of this study (7.4%). Atrophic endometrium still was lower than that of a retrospective study done in Ilorin, Nigeria which showed atrophic endometrium in 16.4% of the cases[14, 20]. In comparison with prospective study done at Gandhi Memorial Hospital (4.2%), the finding of atrophic endometrium was found to be comparable with that of this study[21].

Of the histopathologic findings TB Endometritis (4.5%) was found to be higher than studies conducted at University of Ilorin Teaching Hospital, Nigeria , in which TB Endometritis was seen in 0.45% and second prospective study in Gandhi Memorial Hospital, in which endometrial TB accounted for 1.9%[19,21].

The prevalence of Endometrial Hyperplasia (3.3%) and was by far lower than study conducted in Abuja, Nigeria accounting 18.6% for endometrial hyperplasia[15]. Another study among 629 women in the University of the West Indies, Jamaica also revealed endometrial hyperplasia in 22.3% of the cases[14]. Endometrial Hyperplasia was found to be associated with age which is persistent with the study conducted others[14,15]. Endometrial Carcinoma in this study was responsible for 0.8% of the cases which is lower than the study done in India, Jamaica and TASTH in which endometrial carcinomas accounts for 4.4%, 9.5% and 6.5% respectively[13,14,22]. The study done in TASTH was retrospective review of records on histopathological findings of 475 women presented with PMB; hence higher prevalence of endometrial carcinoma.

The prevalence of pregnancy related complication was associated with patients' age which also revealed similar results as that of studies conducted in India and Abuja, Nigeria [13, 15]. Moreover, endometrial polyp was significantly associated with patients' age. This association was also observed in a study conducted in Danish population aged 20-74 years with prevalence of endometrial polyps being 7.8% (48/619; 95% CI, 5.6-9.9%) and P<0.005[9].

CONCLUSION

Abnormal endometrial histopathological findings were found to be high. About half of women who have undergone endometrial biopsy for different indications were found to have one form of the abnormal endometrial pathology which shows the extent of the problem.

Endometrial polyp, atrophic endometrium and hyperplasia were significantly associated with women above the age of 35. In addition, pregnancy related complications and TB Endometritis were more commonly found among women with age of 35 and younger.

Endometrial cause of complaints is age related pathology. Histopathological examination of endometrial biopsy is a major diagnostic tool in evaluation of patients with any form of AUB and Infertility; and a specific diagnosis could help the physician to plan therapy for successful management of these women in need.

RECOMMENDATIONS

From the observation made from this study it is recommended that:

1. Taking this and other similar researches as a base line data, we recommend for more and further prospective studies on pathologies involving the endometrium.
2. It is high time to alert our residents and interns to make use of the history taking and physical examination technique documented in detail, as well as to put important information in the pathology report format. These may be used as base line information for health related studies
3. Health Information keeping system in the hospital, though starting, need to improve very much; it is very difficult to easily access the information needed for study purposes
4. The result of inconclusive histology was as result of inadequate sample and hence it is prudent to improve our sampling technique or appoint patients on the appropriate time when endometrial tissue can be reasonably found.
5. It is recommended if check lists are used in the future to help in taking gynecologic history in the cards, in addition to the traditional history we use.

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