Addis Ababa University

College of Health Sciences and School of Medicine

Department of Pathology

Histopathologic patterns of uterine corpus neoplasms in in a tertiary level teaching hospital,CHS,Tikur Anbessa specialized Hospital, AAU, Addis Ababa, Ethiopia, a retrospective study over a 5 year period, August ,2016-22020

October , 2020

Thesis submitted to the Department of Pathology, College of Health Sciences, School of medicine Addis Ababa University in Partial fulfillment of the requirements for the Specialty Diploma in Pathology.

Investigator: Hiwot Teshome (MD, Pathology resident)

Advisor: Dr. Yonas Girma (MD, Associate professor of pathology)

Declaration of Principal Investigator

I the undersigned, Hiwot Teshome agree to accept all responsibilities for the scientific and ethical conduct of this thesis entitled "**Histopathologic study of Uterine corpus neoplasms: A Hospital Based Retrospective Study, From January2016 to August 2020.**

The Thesis is my original work and was not prepared by others. All resources and materials used for this research have been dully acknowledged. I was communicating and providing timely progress report to my advisor and seek the necessary advice, comment and approval in the course of this work.

Hiwot Teshome petros (MD), Final Year Pathology Resident:

_____ _____

Signature Date

Approval of Advisor:

The Student had worked on this research and fulfilled all the requirements and hence hereby can submit the thesis to the Department of Pathology, Tikur Anbessa Specialized Hospital, School Of Medicine, College of Health Sciences, Addis Ababa University.

Dr Yonas Girma (MD), Associate Professor of Pathology:

_____ _____

Signature Date

Acknowledgement

My sincere appreciation goes to Dr. Yonas Girma (MD, Associate Professor of Pathology) for his expert guidance and encouragement in the course of the study.

Next, I would like to extend my sincere gratitude to all staff of Pathology, School of Medicine and College of Health Sciences of Addis Ababa University for allowing & help me prepare this study.

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Abbreviations

EC: Endometrial carcinoma

UCT: Uterine corpus tumors

MMMT: Mixed malignant mullerian Tumors

GCO: Global cancer observatory

TASH: Tikur Anbessa Specialized Hospital

ASIR: Age-specific incidence rate

ASPR: Age specific prevalent rate

ASMR: Age-specific mortality rate

CIR: Crude Incidence rate

WHO: World Health Organization

ESS. Endometrial stromal sarcoma

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ABSTRACT

Background: Malignant Uterine corpus tumors (UCT) are increasing in alarming rate throughout the word. Even if most common of this endometrial carcinoma; is prevalent in

western & high income countries ,due to change in life style, increasing obesity, metabolic syndrome and exogenous hormone use its incidence is raising in middle income &developing nations.

Many studies of large series has been conducted worldwide on uterine corpus tumors. However, in Ethiopia, epidemiological analysis of these tumors are very scarce. The present paper is a retrospective study of 1126 cases of uterine corpus lesions from a single institution, in Addis Ababa University, TASH.

According to global cancer observatory estimate in2018 there were total 67,573 new cancer cases, and 47,954 deaths in Ethiopia. Out of this corpus uterine contributes 762 new cases (1.13%) and 404 deaths(0.84%).

And Addis Ababa Cancer Registry 2015 report had estimated 961 new cases of uterine cancer ranked 9th commonest cancer among women; with ASIR OF 3.2% and CIR 1.9 %.

Objectives: The aim of this study is to determine histopathologic patterns of uterine corpus lesions and their frequency .in Tikur Anbessa Specialized Hospital.

Methods and materials: A retrospective analysis of histopathological pattern of Uterine corpus tumors was carried out in the Department of Pathology, college of health sciences, Tikur Anbessa Specialized Referral Hospital (TAH), Addis Ababa university , Addis Ababa, Ethiopia. Patients data was retrieved from the archives of the department of Pathology for a period of 5 years from August 2016-2020 and analyzed using spss version 26.

Result: Out of 1126 cases ,benign lesions accounted 88.4% and the rest 11.6% are malignant lesion .Leiomyoma is most frequent benign lesions. with peak age b/n 31-40yrs.and cellular leiomyoma is commonest histologic type. From malignant lesions ,epithelial origin is the most frequent accounting 55% followed by MMMT (13%), Leiomyosarcoma (9.2%), ESS ,choriocarcinoma, Invasive mole each contribute (6.9%).other sarcoma's group; one rhabdomyosarcoma & two undifferentiated pleomorphic sarcoma total 3 cases (2.3%) is found. Endometroid carcinoma is most common endometrial carcinoma type. Mean age of occurrence for endometrial carcinoma is younger than endometrial sarcomas.

Conclusion: In this study benign neoplasms are way more prevalent than malignant lesions, but for age above 50 yr malignancy appeared to be a common cause of uterine bleeding. Both benign & malignant lesions have common clinical presentation majority having AUB ,b/s of this histopathology remains the mainstay of final and definitive diagnosis.

1. Introduction

1.1. Background

The upper two-thirds of the uterus located above the internal orifice of the cervix is termed the corpus. The fallopian tubes enter at the upper lateral corners of an inverse pear-shaped body. The portion of the muscular organ that is above a line joining the tubo-uterine orifices is referred to as the fundus. Histologically has two important parts ,endometrium and myometrium[1].

It's second common site of neoplasms in female genital tract . AND The most common type of malignancy at this site, Endometrial carcinoma is 6th most commonly occurring cancer in women and 15th most commonly occurring cancer overall globally in 2018 [2].

WHO classifies tumors arising from the corpus into epithelial, mesenchymal, mixed epithelial and mesenchymal, trophoblastic tumors ,lymphoid tumors and metastatic tumors[3]. Each of the classification have diverse histologic variants. Epithelial tumors are commonest and According to the GLOBOCAN cancer statistics, there were an estimated 382,069 new cases of endometrial carcinoma and 89,929 deaths attributed to EC worldwide in 2018.Moreover, EC was the second most common and the fourth leading cause of death due to gynecological cancer among women worldwide in that same year[4].

However, the incidence and mortality of EC differ throughout the world. The incidence rates of EC are generally higher in high-income countries compared to low and middle income countries. The highest incidence rates of EC are observed in North America as well as Northern and Western Europe, whereas the rates are the lowest in South-Central Asia and most of Africa . But disease associated mortality is higher in African Americans and countries with low socioeconomic status[5].

In the United States ,endometrial carcinoma is a leading gynecologic malignancy. And the fourth most frequently diagnosed cancer among women, with estimates of 63,230 diagnoses in 2018. It accounts 90% of uterine corpus malignancies in this country.

The American Cancer Society estimates for cancer of the uterus in the United States for 2020 are about 65,620 new cases of cancer of the uterine corpus will be diagnosed. About 12,590 women will die from this cancer [6].

Global burden of disease GBD has published a research entitled (global regional and national burden of endometrial cancer 1990-2017), shows that endometrial cancer incidence and prevalence is at alarming rate. Based on the study;

The ASIR of EC changed from 8.28 per 100,000 women (95% UI: 8.03, 8.51) in 1990 to 9.57 per 100,000 women (95% UI: 9.33, 9.83) in 2017, with a substantial increase of 0.58% (95% CI: 0.52, 0.64%) per year. In addition, the ASPR changed from 58.43 per 100,000 women (95% UI: 56.66, 59.98) in 1999 to 72.66 per 100,000 women (95% UI: 70.82, 74.71) in 2017, with a substantial increase of 0.89% (95% CI: 0.82, 0.96%) per year.21 regions were analyzed, increasing trends were observed in 19 regions for ASIR, with the highest level observed in high-income Asia Pacific (10.40%).

According to the International Agency for Research on Cancer, the incidence rate of EC is increasing rapidly compared with 2018, and is estimated to increase by more than 50% worldwide by 2040[4].

Global cancer observatory estimate in 2018 was there will be total 67,573 new cancer cases, and 47,954 deaths in Ethiopia. Out of this corpus uterine contributes 762 new cases (1.13%) and 404 deaths(0.84%)[10].

And Addis Ababa Cancer Registry 2015 report had estimated 961 new cases of uterine cancer ranked 9th commonest cancer among women; with ASIR OF 3.2% and CIR 1.9 %[11].

In one study done at pathology department, black lion hospital ,Addis Ababa for menopausal women to determine causes of post menopausal bleeding ,Endometrial carcinoma accounts 6.5% and was 2nd malignant cause of postmenopausal bleeding after cervical cancer[12].

Constitutional factors associated with increased risk of developing endometrial carcinoma includes; early age of menarche, later age of menopause, and nulliparity , hormone replacement therapy, obesity ,tamoxifen use all increasing exposure for unopposed estrogen. Hereditary cancer syndrome ;Lynch syndrome accounts for 2-5% of endometrial carcinoma[7].

Leiomyoma are benign uterine mesenchymal tumors ; affecting more than 25% of reproductive age women . Careful pathological examination of surgical specimens suggests that the prevalence is as high as 77% .The majority of women with uterine fibroids are asymptomatic, consequently get less clinical attention and fibroid tumors often remain undiagnosed[8] .
Uterine fibroids are the most common benign tumors in women and the leading indication for hysterectomies in the USA. African Americans are affected more than whites, early age at menarche, familial predisposition, overweight can contribute for uterine fibroids.

uterine sarcomas account 3-7% of uterine malignant tumors in whites and 10% in blacks. It has no associated with hormonal effect but prior radiation to pelvis has been implicated as predisposing factor .uterine sarcomas tends to occur in younger age than carcinoma[9].

Uterine tumors have common presentation with abnormal uterine bleeding and advanced cases will have abdominal distention and pelvic pressure .

Postmenopausal women are commonly affected with uterine malignancy median age of 53 yr. It's very uncommon before age of 45yrs.

Endometrial sampling is the gold standard for assessing uterine bleeding and diagnosing endometrial neoplasms particularly carcinoma. Others may necessitate hysterectomy specimen both for definite diagnosis and staging. Grading and staging are most important predictors of outcome in uterine malignant tumors.

2. **Materials and Methods**:

A retrospective analysis is carried out after biopsy requested papers with their histologic diagnosis of uterine neoplasms were retrieved from the department archives registered from January 01, 2016 – August 30, 2020 and subjected for review of the demographic, clinical, gross, microscopic description and diagnosis. The study variables included in the study are:

AGE, Clinical presentation, Histologic origins of the lesion, (Epithelial, mesenchymal, Mixed tumors, trophoblastic..), Morphologic patterns of the lesion Behavior of the the tumor,(Benign and malignant), Pathologic stage and grades

- These variables are subjected for data analysis and data feeding then analysis was done on computer package SPSS (Statistical Packages of Social Sciences) version 26.

3. RESULTS

From a total of 1200 cases reviewed, 1126 files having all the needed variables fulfilling the criteria of the study are included. The rest 76 cases were excluded due to incomplete relevant demographic and clinical data , ambiguity of identifying site as cervical or uterine primary, as well as being descriptive diagnoses are excluded from the study.
All are biopsies: received as hysterectomy, and endometrial sampling .
34 hysterectomies are found with pathological staging given .

Mean age of the patients in this study is 37.24years ,range from 18-84. Most are in age group of 31-40 yrs.

Out of 1126 cases the majority 995(88.4%) are Benign neoplasm and only 131(11.6%) are malignant lesions. w

Table.1 Nature of neoplastic lesions of the corpus

Corpus uterine neoplasms		Frequency	Percent
	Benign	995	88.4
	Malignant	131	11.6
	Total	1126	100.0

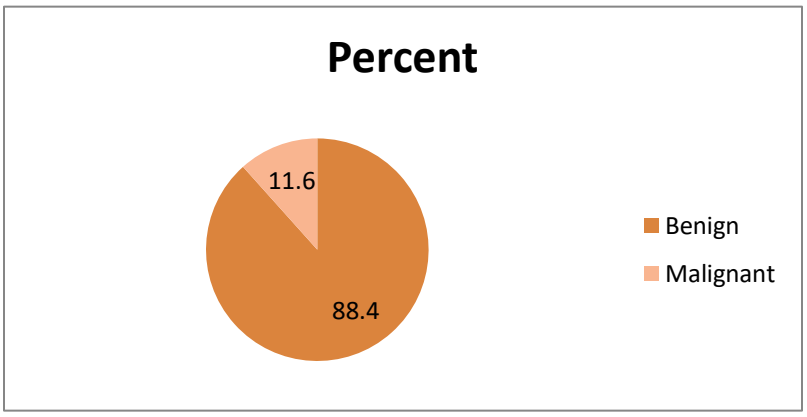


Figure 1 .proportions of neoplastic lesions of the corpus

Leiomyoma is the most frequent benign neoplasm 592 cases 59.5% had leiomyoma, followed by endometrial polyps 214(21.5%) ,partial hydatidiform mole 99(9.9%) ,complete mole 76(7.6%) and Adenomyoma 14(1.4%).

Table 2 . frequency of different types of benign uterine corpus neoplasms

		Frequency	Percent
	Leiomyoma	592	59.5
	Polyp	214	21.5
	Adenomyoma	14	1.4
	partial Hydatidiform mole	99	9.9

	complete hydatidiform mole	76	7.6
	Total	995	100.0

Five histologic sub types of leiomyoma are identified commonest being cellular leiomyoma five cases (0.8%) ,leiomyoma with bizarre nuclei and mitotically active leiomyoma each contribute 2 cases (0.3%).

Myxoid and epitheloid leiomyoma each 1 cases (0.2%). The majority show usual histologic feature and classified as classical 389(65.8%) and 191 (32.3%) show degenerative changes.

Table 3: histologic patterns of leiomyoma and their frequency

	Frequency	Percent
Classical leiomyoma	389	65.8
Leiomyoma with degenerative changes	191	32.3
cellular leiomyoma	5	.8
leiomyoma with bizarre nuclei	2	.3
Myxoid leiomyoma	1	.2
epitheloid leiomyoma	1	.2
mitotically active	2	.3
Total	591	100.0

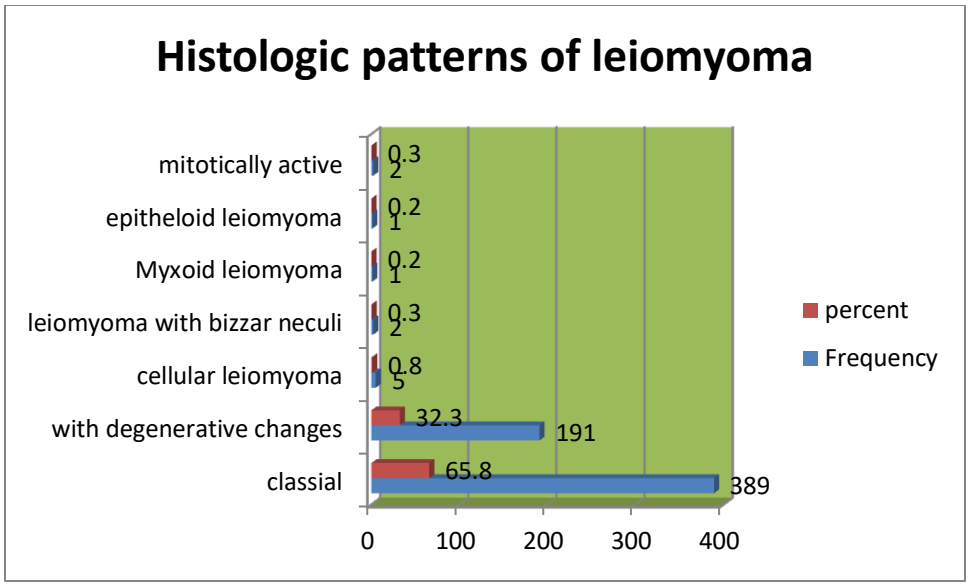


Figure 2: Bar graph showing frequency of histologic patterns of leiomyoma

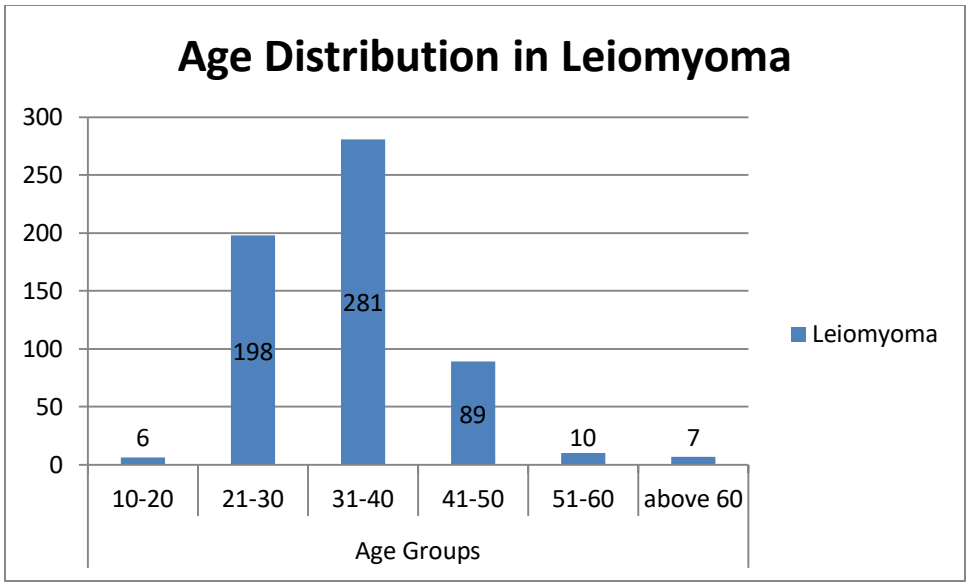
Commonest age found in leiomyoma is 4th decade 31-40, followed by 3th decade 21-30 Seven cases are above 60yrs ,80yr being the maximum and 20yr the minimum age at presentation with mean age of 35.08yrs.

77.8% of patients present with AUB , 20.5% with lower abdominal pain &swelling and 10 patients (1.7%) present with primary infertility.

Table 4. clinical presentations of Leiomyoma

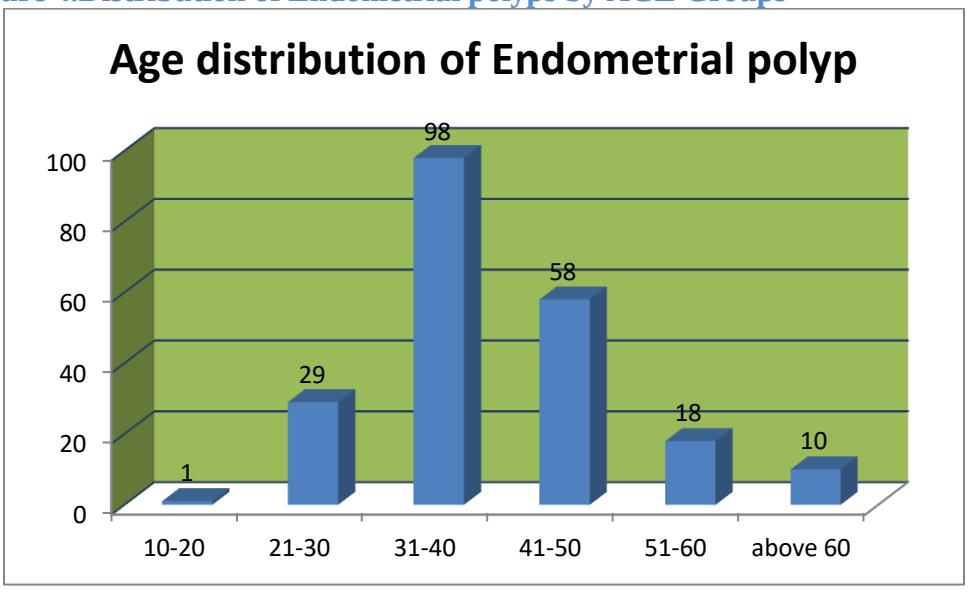
Clinical Presentation	frequency	percent
AUB	460	77.8%
Abdominal swelling and pain	121	20.5%
Infertility	10	1.7%
Total	591	100.0%

Figure 3. Age Group Distribution in Leiomyoma



214 women had endometrial polyp and this is 21.4 % of all benign lesions .All cases of endometrial polyp present with AUB. AGE at presentation range from 20-75 with mean age of 40.6yrs. commonest age group is 31-40 yrs.

Figure 4.Distribution of Endometrial polyps by AGE Groups



From trophoblastic tumours partial hydatidiform mole is the most frequent with 101 cases (52.1%) followed by complete mole 75 cases (38.7%) . this are 3th and 4th commonest benign lesions in the corpus accounting 9.9&7.6% respectively. minimum age for partial mole is 18yrs maximum age 45 , mean age of 28.02yr.

Age at presentation for complete mole range from (18-50)yr. with mean age of 29.65 yr.

Majority of patents with trophoblastic lesions present with AUB 153(78.9%) and the rest 21.1% present with abdominal swelling and pain

Table 5. frequency of different types of trophoblastic lesions

	Frequency	Percent
Partial Hydatidiform Mole	101	52.1
Complete Hydatidiform Mole	75	38.7
Invasive Mole	9	4.6
Choriocarcinoma	9	4.6
Total	194	100.0

		Partial Hydatidiform Mole	Complete Hydatidiform Mole	Total
Age Groups	10-20	14	8	23
	21-30	62	37	99
	31-40	20	26	46
	41-50	5	4	9
	above 60	0	0	
Total		101	75	177

Table.6 Age Group Distribution of Benign Trophoblastic lesions

From malignant neoplasms; epithelial origin (endometrial carcinoma)is the most frequent 72 cases accounting 55% followed by MMMT 17 cases (13%), Leiomyosarcoma 12(9.2%), ESS ,choriocarcinoma, Invasive mole each contribute 9 cases(6.9%).other sarcoma's group; one rhabdomyosarcoma & two undifferentiated pleomorphic sarcoma total 3 cases (2.3%) are found.

Most of patients are above 60yrs (31.3%) followed by 6^{th} decade 5^{th} decade and 4^{th} decade and lowest number of patents are in age group 10-20. Age at presentation ranges from (18 - 84)yr. with a mean age of 52.79 year. The minimum age 18 was observed one case in choriocarcinoma and two in undifferentiated pleomorphic sarcoma. And highest age group is observed in MMMT.

Table.7 Malignant lesions of the corpus

Malignant lesions of the corpus		Frequency	Percent
	Endometrial carcinoma	72	55.0
	Endometrial Stromal Sarcoma	9	6.9
	Leiomyosarcoma	12	9.2
	Mixed Malignant Mullerian Tumour	17	13.0
	Choriocarcinoma	9	6.9
	Invasive Mole	9	6.9
	other sarcoma	3	2.3
	Total	131	100.0

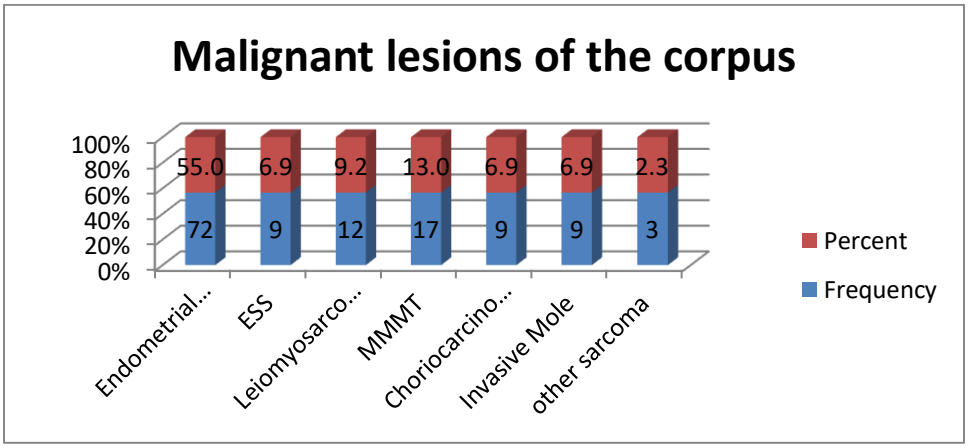


Figure 5. Different types of malignant lesions of the corpus

Age Groups	Endometrial carcinoma	ESS	Leiomyosarcoma	MMMT	Choriocarcinoma	Invasive mole	Other sarcomas	Total
10-20					1		2	3
21-30	1		5		3			9
31-40	8	1			2	9		20
41-50	19		5	1	2			27
51-60	25			6				31
Above 60	19	8	2	10	1		1	41
Total	72	9	12	17	9	9	3	131

Table 8 .Age Group Distribution of malignant uterine tumors.

Endometroid carcinoma cases is the most prevalent histologic type from Endometrial carcinomas accounting 63.9% followed by serous carcinoma 12.5% ,poorly differentiated carcinomas 9.7%,clear cell carcinoma 5.6%,villoglandular 2.8%,Adenosquamous carcinoma, squamous carcinoma, Mucinous carcinoma and undifferentiated carcinoma each accounts 1.4%.

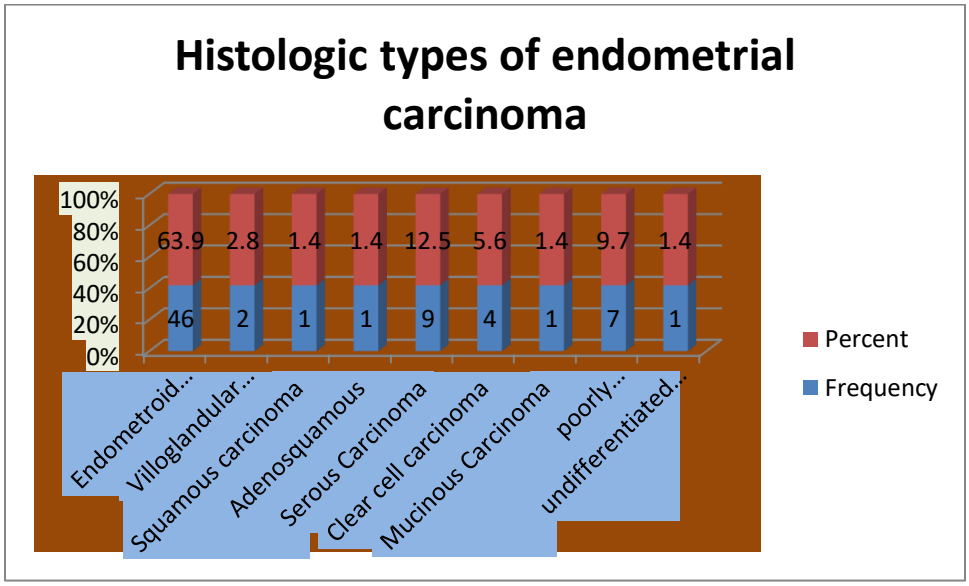


Figure 6. Different histologic types of endometrial carcinoma

Most of the patients in endometrial carcinoma fall in age group (51-60 yr). followed by age group above 60 and age group b/n 41-50 yrs.

Lowest age is seen in mucinous carcinoma w/c is age 30. Wide age rang is seen in endometroid carcinoma from 31-80 yrs. , w/c is maximum age in endometrial carcinoma group, mean age is 55yr. For serous carcinoma age of occurrence range from (54-67 yrs.), with mean age of 62yrs.

Age group	Endometroid -ca	Villoglandular carcinoma	Squamous carcinoma	Adeno Squamous carcinoma	Serous-carcinoma	Clear cell carcinoma	Mucinous carcinoma	Poorly differe-ntiated	Undifferentiated carcinoma	total
21-30							1			1
31-40	8									8
41-50	12		1	1		1		4		19
51-60	12	2			5	3		2	1	25
>60yr	14				4			1		19

tot	46	2	1	1	9	4	1	7		72

Table 9. Age Group Distribution among different histologic types of Endometrial carcinoma.

99% of patients with endometrial carcinoma presented with AUB .

All Endometroid carcinoma are given grade and most are grade1,(52%) followed by grade 2 ,(28%) and Grade 3,(19%). Out of 46 cases 22 are hysterectomy specimen and are given pathological stage. Highest stages reported are (T1b,N2) & (T2,N1). & Most frequent stages are T1a,N0; & T3a,NX.

Table 10. Endometroid carcinoma Grade

Endometrial carcinoma	**NO.**	**percent**
Grade 1	24	52%
Grade2	13	28%
Grade3	9	19.56%
Total	46	100%

Table 11

AGE Distribution of Endometrial carcinoma

Endometrial Carcinoma	Mean	Std. Deviation	Minimum	Maximum
Endometroid Carcinoma	55.02	12.931	31	80
Villoglandular carcinoma	56.50	.707	56	57

Squamous carcinoma	45.00	.	45	45
Adenosquamous	44.00	.	44	44
Serous Carcinoma	62.00	4.301	54	67
Clear cell carcinoma	54.75	6.185	46	60
Mucinous Carcinoma	30.00	.	30	30
poorly differentiated carcinoma	52.00	5.627	46	63
undifferentiated carcinoma	56.00	.	56	56
Total	55.00	11.466	30	80

Table 12. pathological TNM staging of endometrial carcinoma

staging	Pathological staging of Endometrial Carcinoma						
	Endometroid carcinoma	Villoglandular carcinoma	Adenosquamous	Serous carcinoma	Mucinous carcinoma	Undifferentiated carcinoma	Total
T2a,No	1	0	0	1	0	0	2
T1b,No	1	0	0	0	0	1	2
T2,N1,	0	0	1	0	0	0	1
T1a,No	3	1	0	0	0	0	4

T2,No	1	0	0	0	0	0	1
T1b,N2	1	0	0	0	0	0	1
T1b,Nx	0	0	0	0	1	0	1
T1a,Nx	0	0	0	1	0	0	1
T1c,Nx	1	0	0	2	0	0	3
T3,Nx	3	0	0	1	0	0	4
T3,No	1	0	0	0	0	0	1
T2,Nx	1	0	0	0	0	0	1
Total	13	1	1	5	1	1	22

31 mixed epithelial and mesenchymal tumors are found 14(45%) Adenomyoma and 17(54.8%) MMMT

Most of the patients in adenomyoma fall in age group b/n (31-40 yr.),minimum age at presentation is 30yr and highest age is 60yr with mean age of 39.6 yr.

Most patients in MMMT are above 60yr ,Age ranging from (50 - 82)yr. with mean age of 62.88yr.

66.7% of patients with Adenomyoma presented with abdominal swelling and pain, the rest 33.33% presented with AUB.

93% of MMMT patients present with AUB the rest 6% with abdominal swelling.

Five cases are hysterectomies with pathologic staging given are found

highest stage is with metastasis to ovary T3,Nx,M1 ..followed by T1b,N1, …T3,No….T1b,No….

Figure 7. Age group distribution of mixed tumors.

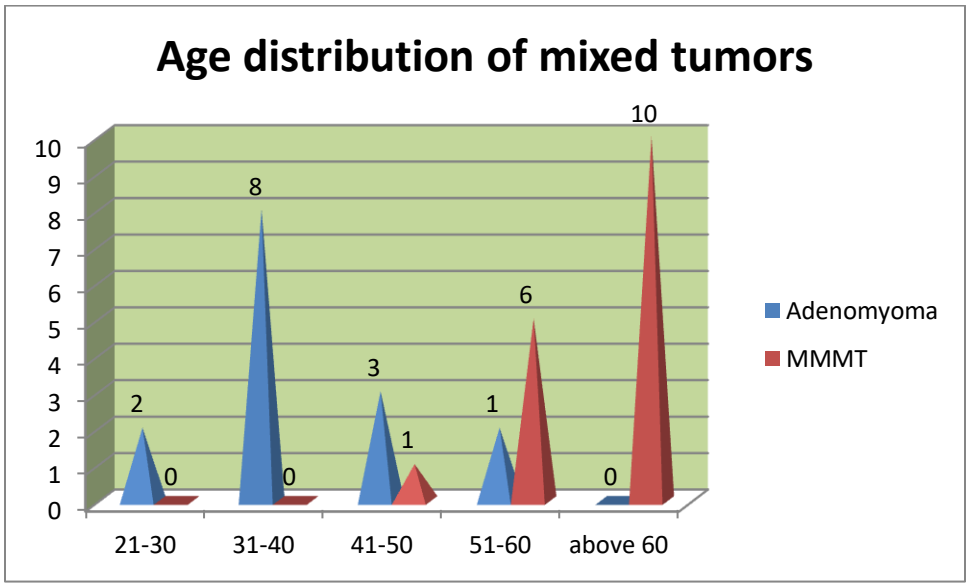
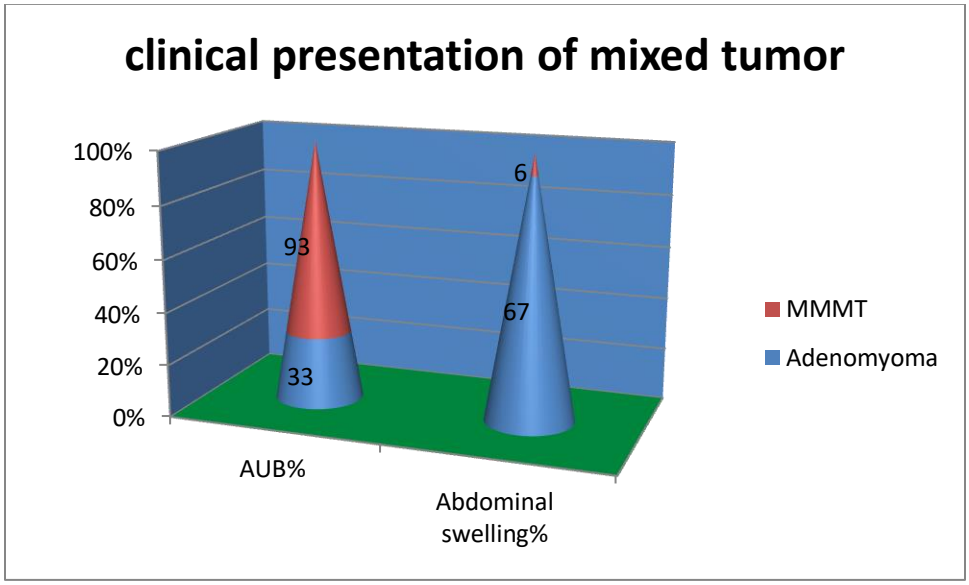


Figure 8. clinical presentations of Mixed epithelial &mesenchymal tumors



Leiomyosarcoma is the most prevalent mesenchymal malignant lesion in this study accounting 9.2%. Two histologic types are identified Epitheloid and Myxoid leiomyosarcoma accounting 50% and 20% respectively .The rest is usual leiomyosarcoma accounting 30%.

Most patients are b/n age group 41-50yr with mean age of 46.7yr. Highest age 70yr as well as older age group is seen in Myxoid leiomyosarcoma. Lowest age 23yr , is seen in epitheloid & classical leiomyosarcoma.

Table 13.Age distribution of leiomyosarcoma

Leiomyosarcoma	Age Groups		
	21-30	41-50	above 60
Myxoid Leiomyosarcoma	0	0	2
Epitheloid Leiomyosarcoma	2	3	0
classical leiomyosarcoma	3	2	0
total	5	5	2

Table 14. Age and histologic types of leiomyosarcoma				
Histologic types	Std. Deviation	Minimum	Maximum	Mean
Myxoid Leiomyosarcoma	.000	70	70	70.00
Epitheloid Leiomyosarcoma	12.033	23	48	39.40

classical leiomyosarcoma	11.547	23	50	36.6
Total	15.748	23	70	46.70

90% of patients present with AUB &10 percent present with abdominal swelling.

From 12 cases of leiomyosarcoma identified only three are hysterectomy specimens with pathologic stage given T2a,N0 , T1b,N0 , & T2a,Nx.

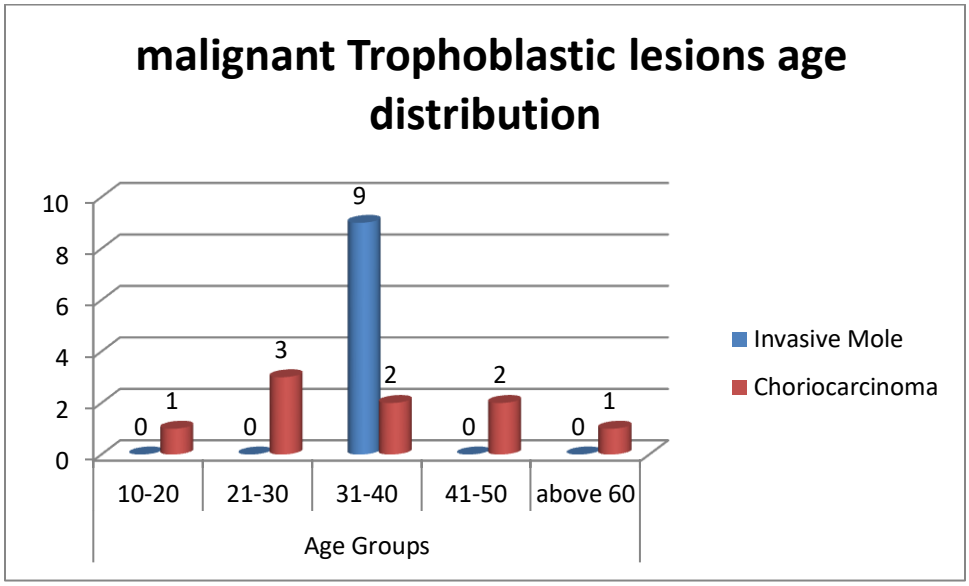
Table 15. pathological staging of uterine leiomyosarcoma.

		Myxoid Leiomyosarcoma	Epitheloid Leiomyosarcoma	classical leiomyosarcoma	Total
Pathological staging	T2a,No	0	0	1	1
	T1b,No	1	0	0	1
	T2,Nx	0	1	0	1

Invasive mole and choriocarcinoma are the two malignant trophoblastic lesions each accounting 4.6% of trophoblastic lesions. And each contribute 6.9% of malignant lesions in the corpus.

All cases of invasive mole are b/n age group (31-40 yr). with minimum age of 32 yr , maximum age of 40yr & mean age is 38 yr. Choriocarcinoma showed a wide age range with minimum age of 18yr and maximum age of 84yr with mean age of 36.67yr. All cases Present with AUB.

Figure 9. Age group distribution of malignant trophoblastic lesions



Endometrial stromal sarcoma accounts for 4.6% of malignant lesion . 8 cases out of 9 are above 60yr. minimum age 36 ,is seen in high grade ESS and maximum age 75 yr. is seen both in low grade ESS & UUS , mean age of occurrence for ESS is 66.67 yr.

High grade ESS and Undifferentiated uterine sarcoma each accounts 44 .4% of endometrial stromal sarcomas. And Low grade ESS accounts 11.1%.

Four cases are hysterectomies with pathological staging given three of them are high grade endometrial stromal sarcomas , and one undifferentiated uterine sarcoma all staged as T1b,Nx .

Figure 10. frequency of Endometrial stromal sarcoma

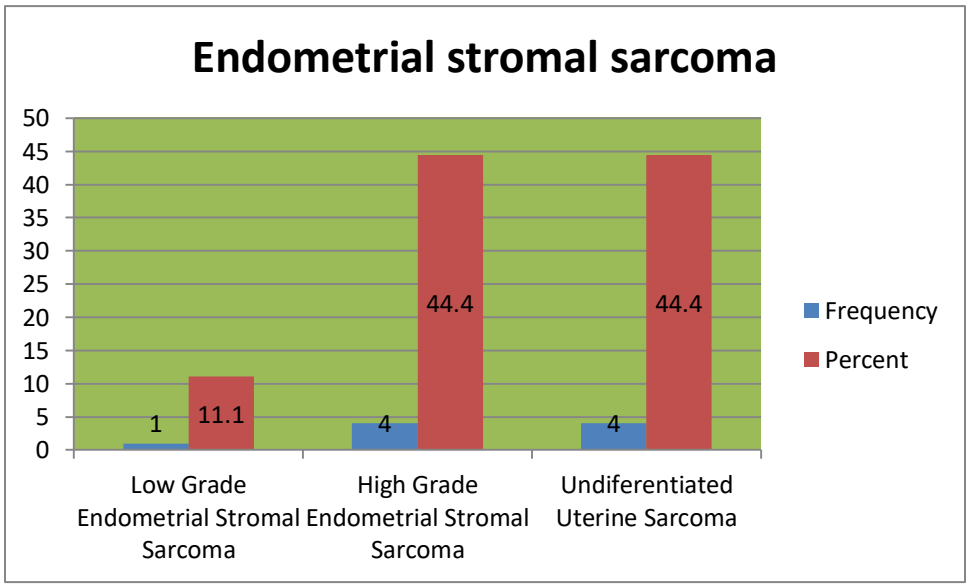


Table 15 Age patterns among ESS

Endometrial Stromal Sarcoma	Mean age	Std. Deviation	Minimum	Maximum
Low Grade Endometrial Stromal Sarcoma	75.00	.	75	75
High Grade Endometrial Stromal Sarcoma	60.25	16.840	36	75
Undiferentiated Uterine Sarcoma	71.00	4.619	67	75

Other sarcomas identified are one rhabdomyosarcoma &two undifferentiated pleomorphic sarcoma. Both cases of UPS presented at age of 18 yrs. One uterine rhabdomyosarcoma is found at age of 65yr . All three cases are endometrial biopsies ,and presented with AUB.

3. DISCUSSION:

Both benign and malignant uterine lesions frequently present with abnormal uterine bleeding .And best way to asses AUB is endometrial sampling. Endometrial sampling for detection of uterine lesions can be done in various ways, one is D& C, its most popular in our set up, other methods with slight better advantages include Hysteroscopy with selective endometrial sampling, &Office Sampling with negative pressure aspiration. Hysterectomy would follow biopsy assessment of malignant lesions for early stage diseases.

In our study from 131 malignant tumors 34 were hysterectomies and the rest are biopsies from endometrial sampling.

Most patients in this study are in age b/n 31-40,453(40%) . 27% are above age of 40yr , 10.4% are above 50yr , 5.2% are above 60yrs.

In this study malignancy rate is shown to increase with age; for patients above 40 ; 67% of cases are benign lesions and the rest 32% are malignancies ,whereas for those above age 50yrs the majority 60.7% are malignant lesions and 39% are benign ,even more for above 60yr ,70.7% are malignancies and 29 %are benign.

Similarity is seen in a research done at black lion hospital pathology department in 2001 aiming to asses causes of post- menopausal bleeding ;Age from 41-84 yrs. are included with peak age b/n 50-54 yrs. mean age of 56.5 yr. ;And malignancy accounted for 60.8% and benign lesions accounted 39.2% ,as cause of postmenopausal bleeding[12]

In this research benign neoplasms holds bigger proportion, Out of 1126 cases the 995(88.4%) are Benign neoplasm and only 131(11.6%) are malignant lesions. This has similarity with research done at India , benign tumors accounted (95.6%) followed by

malignant (3.9%) and borderline (0.5%)[15]. And a study done in Egypt for patients presented with AUB, malignancy was seen in 5.3% the rest 94.7% were benign lesions[20].

Globocan cancer estimate for Ethiopia was 762 new cases in 2018 and this contradicted with current study finding ,were only 131 malignancies are found. This might partially be due to diagnosis in other centers outside black lion hospital and the excluded samples.

Most frequent malignant lesion is epithelial origin 55% ,followed by MMMT 17%, and 18.4% mesenchymal (leiomyosarcoma,ESS,other sarcoma groups). This is in concordance with study done at Spain 93.9% are epithelial tumors 4.6% are mesenchymal origin . And with study done in Nigeria 70.6% endometrial carcinoma ,20.4% are sarcomas and 6.9% are MMMT[13, 17]

From Endometrial carcinomas Endometroid carcinoma accounts 63.9% [Grade1,(52%) Grade 2 ,(28%) and Grade 3,(19%)]. followed by serous carcinoma 12.5% ,poorly differentiated carcinomas 9.7%,clear cell carcinoma 5.6%,villoglandular 2.8%,Adenosquamous carcinoma, squamous carcinoma ,Mucinous carcinoma and undifferentiated carcinoma each accounts 1.4%. In Spain study , endometrioid carcinoma has similar higher percentage (82.7%), and similar grade proportion (Grade 1: 51 % 355 65.4 (11.4) Grade 2: 32 % Grade 3: 17 %) , but unlike present study clear cell carcinomas (3.9%) exceeds serous carcinoma (2.3%) , followed by mucinous adenocarcinoma (1.1%) ,undifferentiated carcinomas(0.9%) and squamous cell carcinomas(0.2%) . Similar result are seen at Study done at DUKE University Medical center , Endometroid carcinoma accounted for 90% , Serous carcinoma 8%, Clear cell for 2%, And in Norway (97.1%) were endometroid type , (1.6%) undifferentiated carcinomas, (1.1%) serous carcinomas and (0.1%) squamous cell carcinomas. ; In Lahore, Pakistan, Endometrioid carcinoma accounts for 75%, uterine serous carcinoma (10%) ,clear cell (4%),and squamous cell (1%) and mixed endometrial carcinoma is 10%[14, 23,13]

Mean age of occurrence for Endometrial carcinoma in this study is 55 yrs. ranging from (31-80)yrs. And most patients fall at age b/n 51-60yrs. Higher mean age than this was seen in Norway study , with mean age of occurrence 62yrs. age ranging from (32-93)yrs. And Lagos university study in Nigeria ,mean age was 62.2 yrs.[15, 16]

AGE group 51-60 is peak age of incidence in our study as well as in Indian and Taiwan study .[18, 19]

Leiomyosarcoma is most frequent mesenchymal malignant tumor accounting 9.2% followed by ESS 6.9%, undifferentiated pleomorphic sarcoma1.5% and rhabdomyosarcoma0.77%. Comparable results are seen in Nigerian study leiomyosarcoma accounts 57.6%, followed by endometrial stromal sarcoma 13.6% and Rhabdomyosarcoma 6.8%. In Spain study, leiomyosarcoma accounts (1.6%) ,endometrial stromal sarcoma (0.9%), mixed endometrial stromal and smooth muscle(2%). Contrasting result was seen in Indian scenario in w/c ESS accounted 86% and Leiomyosarcoma 13.3%[13,17]

Mean age of patients with pure sarcoma is lower than those diagnosed with carcinoma or MMT. In our study mean age of leiomyosarcoma is 46.6 yrs. Which is around 10 yrs. younger than mean age for endometrial carcinoma. Where as , mean age of ESS is 66.7 yrs. With total mean age for uterine sarcomas 50.8yrs. Lower mean age is seen in Indian study, where total mean age for uterine sarcomas is 42.6yrs.

Leiomyoma is most prevalent benign lesion in many studies .In current study it accounts 59.5% of benign lesions with peak age of occurrence b/n 31-40yrs. Cellular leiomyoma being the most common histologic pattern .This is analogues with Indian study , leiomyoma accounts 91.2% with peak age at 4th decade and Cellular leiomyoma (1.8%) was the most common histologic variant. In Saud Arabia study common age group is slightly higher , b/n 41 - 50 years .Cellular leiomyoma is common histologic type constituting 2.7%. Contrasting result seen in Egypt where endometrial polyp was most common lesion accounting (37.9%) & leiomyoma(9.2%)[18, 21, 20]

From GTD partial hydatidiform mole (51%) is the most prevalent followed by complete hydatidiform mole(38.7%) ,invasive mole & choriocarcinoma with equal frequency each accounting (4.6%). IN Malaysian study of GTD, complete hydatidiform moles [64%], is most frequent than partial hydatidiform moles (28%), followed by invasive mole(2.6%) and choriocarcinoma(5%). IN Nigerian study choriocarcinoma(23.3%) is the second frequent following partial mole(52.4%), and complete mole accounted(22.3%)[24, 25]

In all studies peak age for GTD is age b/n 21-30yr .mean age of occurrence for choriocarcinoma in our study is 36yrs. slightly higher than Nigerian study (mean age 33yr),and lower than Malaysian study (mean age 43.5)yrs.

4. CONCLUSION

In this study benign neoplasms are way more prevalent than malignant lesions but for age above 50 yr. malignancy appeared to be a common cause of uterine bleeding. .Both benign & malignant lesions have common clinical presentation majority having AUB and the rest with compliant of lower abdomen pain & swelling , b/s of this histopathology remains the mainstay of final and definitive diagnosis.

This study shows mainly comparable results with other literatures with only few disparities . Leiomyoma is most frequent neoplasm of the corpus accounting 59%

followed by endometrial polyp. With mean age of 35.08yr and 40.5 yr. respectively.

And endometrial carcinoma, endometroid type is commonest malignancy of the corpus followed by MMMT ,leiomyosarcoma & ESS . comparable number & percentage of choriocarcinoma and invasive mole is found in this study compared to most other studies. Only in Nigerian province choriocarcinoma found to be prevalent.

Mean age of occurrence for endometrial carcinoma is younger than endometrial sarcomas.

8. Recommendations

- Since uterine corpus malignancies have diverse histologic patters ability to diagnose them depends on adequacy of the sample, this has to be gained with better equipment and skill in order to avoid in adequate diagnosis .

- Morphology is the key when subcategorizing the tumors; however, in high grade tumors immunohistochemistry is of valuable help. and effort has to be made to use it, for Proper classification of the tumor for management & research purpose .

- Patients with trophoblastic lesions should properly be followed to avoid malignant progression to choriocarcinoma.

- Given rapid increment of endometrial carcinomas world wide ,health care providers and stakeholders are expected to give emphasis and concerns for uterine malignancies and public awareness creation has to be done on symptoms &risk factors.

- High risk groups those with pelvic radiation and long term tamoxifine use &other hormonal therapies should be followed in order to find the tumor in early and pre-cancerous stage .

- Socio-demographic data, clinical history and radiologic finding should be complete on the request paper by clinicians.

- The data keeping method should improve and be convenient for conducting a research or any analysis.

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