



Journal Homepage: - [www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/14166  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/14166>



### RESEARCH ARTICLE

#### “HISTOPATHOLOGICAL STUDY OF ENDOMETRIAL CARCINOMA IN WOMEN WITH POSTMENOPAUSAL BLEEDING”

Dr. Nandini S. Nayaka<sup>1</sup> and Dr. Sujata Giriyan<sup>2</sup>

1. Former Assistant Professor AIMSRC, Devanahalli, Bangalore.
2. Professor & HOD, Department of Pathology, Karnataka institute of medical science, Hubballi.

#### Manuscript Info

##### Manuscript History

Received: 30 November 2021  
Final Accepted: 31 December 2021  
Published: January 2022

##### Key words:-

Postmenopausal Bleeding, Endometrial  
Carcinoma, Carcinosarcoma

#### Abstract

Postmenopausal bleeding represents one of the most common reasons for referral to gynecological services, largely due to suspicion of an underlying endometrial malignancy. The objective of this study is to find the prevalence of endometrial carcinoma in women with postmenopausal bleeding and to study the histopathology of endometrial carcinoma.

**Materials And Methods:** A three and half years retrospective (May 2010 to Oct 2013) and one and half year prospective study (Nov 2013 to April 2015) of all D&C and hysterectomy specimens of patients presenting with postmenopausal bleeding were undertaken in the department of Pathology, KIMS Hubballi.

**Results:** In our study out of 122 cases of postmenopausal bleeding there were 22 cases of endometrial carcinoma. In 22 cases 21 were endometrial adenocarcinoma 1 case was carcinosarcoma. Majority were in 56 to 65 years. There were various histopathological patterns showing endometriatype, endometrioid type with papillary differentiation, squamous differentiation, mucinous differentiation and 1 case showing carcinosarcoma. Majority, 18 cases (85.7%) were in Grade I, 2 cases (9.5%) were in Grade II and 1 case was in Grade III. Out of 22 cases 15 cases were hysterectomy specimen, 7 cases were curettage samples. In 15 cases, 2 cases were confined to uterus (Stage IA), 9 cases (60.6%) were stage IB, 1 case was stage IC. There was 1 case in stage IIA with involvement of endocervical mucosa, there were 2 cases in stage III with each showing involvement of bilateral ovaries (Stage IIIA) and bilateral pelvic lymph nodes (Stage IIIC). In our study there were 1 case of carcinosarcoma in stage IB in the age group 55 years. Hence postmenopausal bleeding is a dreaded and alarming symptoms and requires complete evaluation in order to ensure the absence of malignancy and to identify and treat high risk patients.

Copy Right, IJAR, 2022., All rights reserved.

#### Introduction:-

WHO defines menopause as permanent cessation of menstruation resulting from the loss of ovarian follicular activity<sup>1</sup>. The incidence of spontaneously occurring postmenopausal bleeding in the general population can be as high as 10% immediately after menopause<sup>2</sup>. There is a famous dictum that “Postmenopausal bleeding must be

**Corresponding Author:- Dr. Nandini S. Nayaka**

Address:- 1<sup>st</sup> Floor Brindavana Apartment, Behind Forest Office, MG Road, Karwar, Uttara  
Kannada -581302.

considered as indicative of malignant disease until proven otherwise". A woman not taking hormone replacement therapy who bleeds after menopause has 10% risk of having genital carcinoma<sup>3</sup> and reported incidence of endometrial cancer has very wide range from as low as 1.5% to as high as 54 % in different population groups. Endometrial cancer is a disease that occur primarily in postmenopausal women and is of poor prognosis in advancing age. The definite role of estrogen in the development of most endometrial cancers is established. Any factors that increase the exposure to unopposed estrogen increases the risk for endometrial cancer<sup>4</sup>

Unlike other malignancies, endometrial cancers often present at an early stage when there is a possibility of curative treatment by hysterectomy. Survival decreases with increased staging and lower histological differentiation. Thus accurate and timely diagnosis is important and should preferably be carried out by a safe and minimally invasive method. Guidelines addressing postmenopausal bleeding are therefore aimed at excluding endometrial cancers and precancerous lesions of endometrium<sup>5-8</sup>

Thus this study of sampling of endometrium is conducted in all women presenting with postmenopausal bleeding in order to find the prevalence of uterine malignancy in a woman with postmenopausal bleeding. And to study the histopathology of endometrial carcinoma.

### **Objectives Of The Study:-**

1. To know the prevalence of endometrial carcinoma in women with post-menopausal bleeding
2. To study the histopathology of endometrial carcinoma.

### **Methodology:-**

This study was done on hysterectomy specimens and endometrial biopsies from patients with postmenopausal bleeding received at the department of pathology, Karnataka Institute of Medical Science Hubballi for histopathological examination during the period of 2010 to 2015 (prospective study of 1 ½ years and retrospective of 3 ½ years)

### **Methods Of Data Collection:**

The data for prospective study was obtained from requestion with tissue specimen received in 10 % formalin. After adequate fixation of the specimen, the specimen was subjected for gross examination and tissue processing. 3-5 micron thick sections was taken and stained with haematoxylin and eosin. The data for retrospective study was obtained from departmental records, tissue blocks, slides and clinical records.

### **Study Period:**

Fiveyears study with prospective study of 1 ½ years i.e from November 2013 to April 2015 and retrospective study of 3 ½ years i.e. from May 2010 to Oct 2013

### **Inclusion Criteria:**

Specimen from patients with postmenopausal bleeding who have had hysterectomy, endometrial biopsies and dilation and curettage done.

### **Exclusion Criteria:**

1. Cases with non-endometrial causes of postmenopausal bleeding.
2. Hysterectomy specimen and endometrial biopsies from patients without complaints of postmenopausal bleeding.

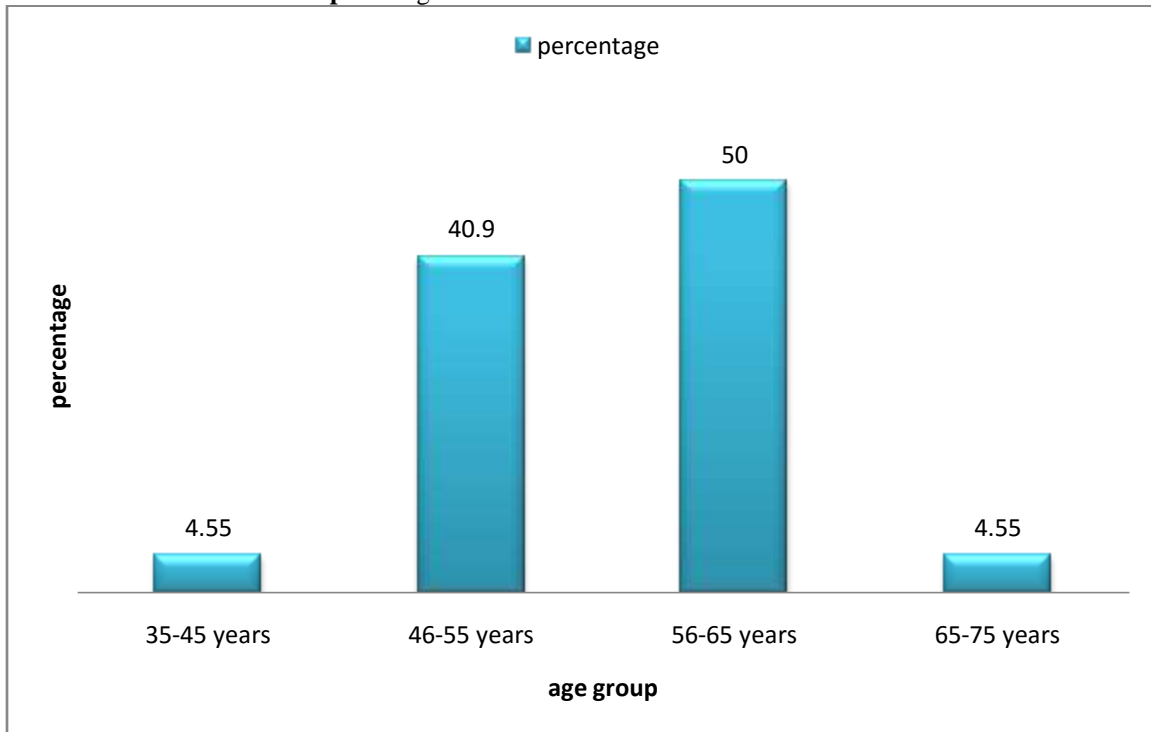
### **Observations And Results:-**

During the study period from May 2010 to April 2015; There were total of 122 cases including hysterectomy specimen, endometrial biopsy and curettings of patients with postmenopausal bleeding received at the Department of pathology, Karnataka Institute of Medical Sciences Hubballi. The different endometrial patterns presenting as postmenopausal bleeding were studied. Out of 122 cases; the most common finding on histopathology was simple hyperplasia without atypia, 37 cases (30.6%) followed by proliferative endometrium of 26 cases (21.1%) and atrophic endometrium 13 cases (10.64%).

Among the malignant causes of postmenopausal bleeding, endometrial adenocarcinoma was the most common finding accounting for 17.2% (21 cases) and 1 case of carcinosarcoma(0.8%).

Out of 22cases (18%)of endometrial carcinoma. The age of endometrial carcinoma cases ranged from 35 to 75 years with mean age of 58.2years. Majority, 11cases (50%) were in the age group 56 to 65 years followed by 9 cases (40.90%) in the age group 46 to 55 years. 1 case (4.55%) each were seen in 35 to 45 years and 66 to 75 years as shown in Graph-1. Chi-square value is 8.47, the p- value is 0.03. There is a significant association found between the age group and endometrial carcinoma.

**Graph:1-** Age Distribution Of Endometrial Carcinoma.



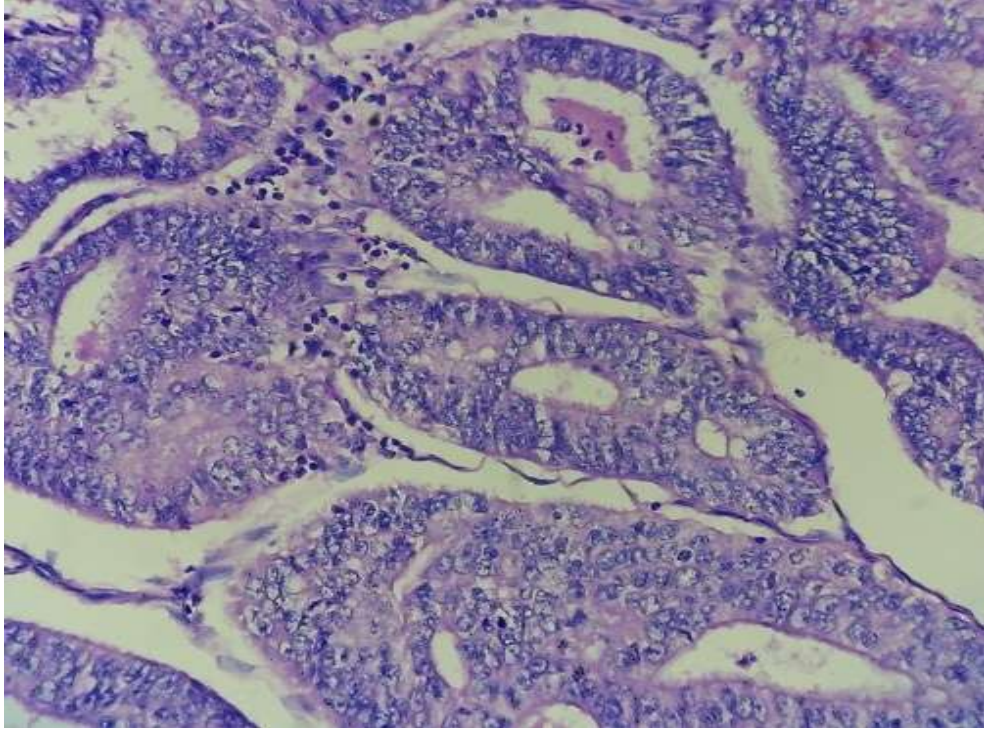
Out of 22 cases, 13 cases (59.09%) had endometrioid type which showed tumor cells arranged predominantly in glandular pattern with no differentiation (Fig-3, Fig-4). 5 cases (22.72%) were endometrioid type with papillary differentiation showing tumor cells arranged in glandular and papillary pattern (Fig-5), 2 cases (9.09%) were endometrioid type with squamous differentiation showing tumor cell arranged predominantly in glandular pattern with focal area showing squamous morules, 1 case (4.55%) had endometrioid type with mucinous differentiation and 1 case (4.55%) was carcinosarcoma (Fig-7,8) as shown in table-1.



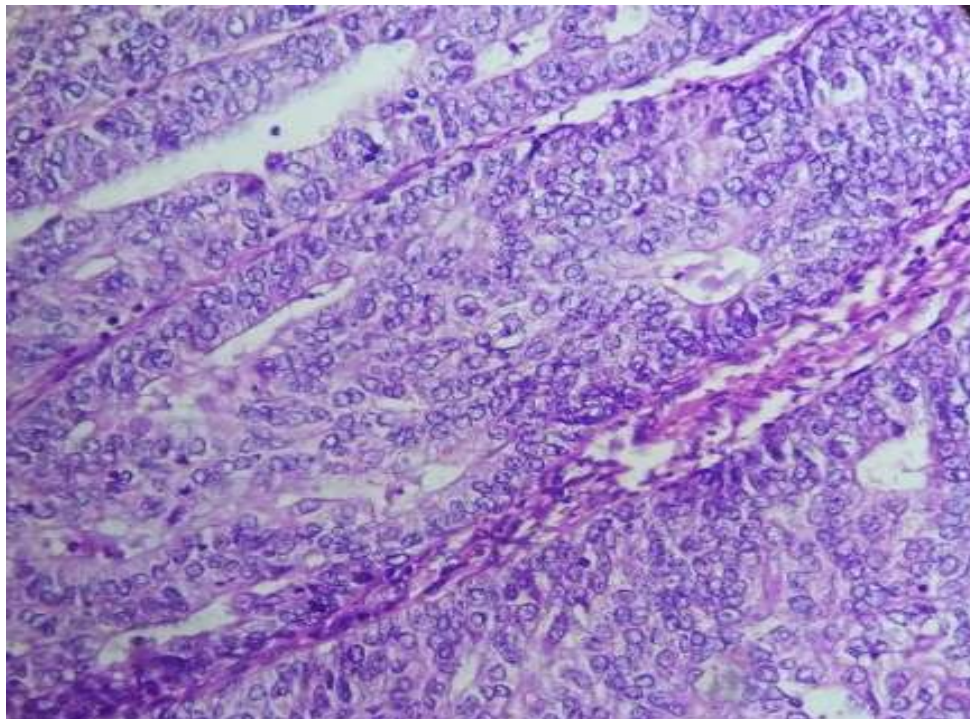
**Fig- 1:-** Cut surface of hysrectomy specimen showing grey white friable growth filling the endometrial cavity-  
endometrial adenocarcinoma.



**Fig-2:-** Cut surface of hysrectomy specimen showing grey brown friable growth-Endometrial adenocarcinoma.



**Fig-3:-** Showing tumor cells arranged in glandular pattern-endometrioid adenocarcinoma (H and E,40x).



**Fig-4:-** Showing tumor cells arranged in glandular pattern and in sheets-endometrioid adenocarcinoma-Grade:II(H and E,40x).

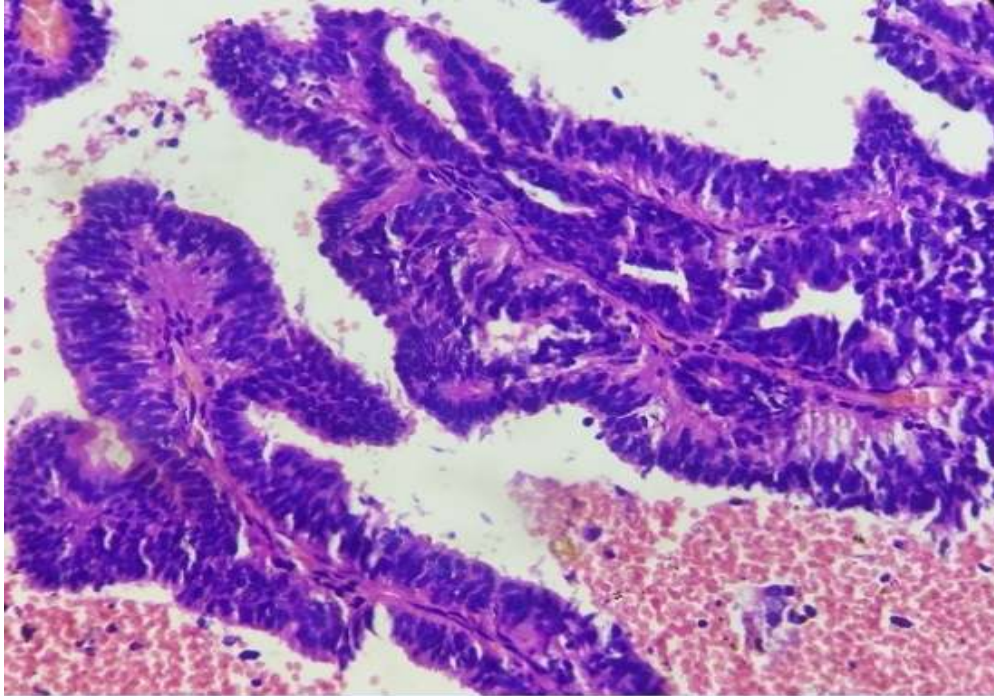


Fig-5:- Endometrioid type of adenocarcinoma with papillary differentiation (H and E,40x).

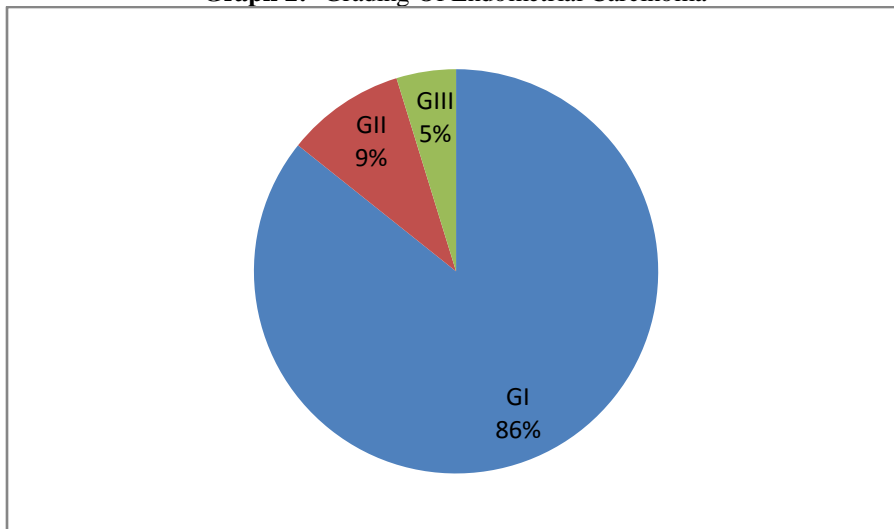
Table 1:- Distribution Of Histological Subtypes Of Endometrial Carcinoma.

Histological subtypes	No. of cases	Percentage
Endometrioid type without differentiation	13	59.09%
Endometrioid type with squamous differentiation	2	9.09%
Endometrioid type with papillary differentiation	5	22.72%
Endometrioid type with mucinous differentiation	1	4.55%
Carcinosarcoma	1	4.55%
<b>TOTAL</b>	<b>22</b>	<b>100</b>

**Tumor Grade:**

In the present study, out of 21 cases of endometrial adenocarcinoma, majority, 18 cases (85.71%) were grade 1, 2 cases (9.52%) were grade II, (Fig-31) and 1 cases (4.77%) was grade III (Fig-32) as shown in graph-2.

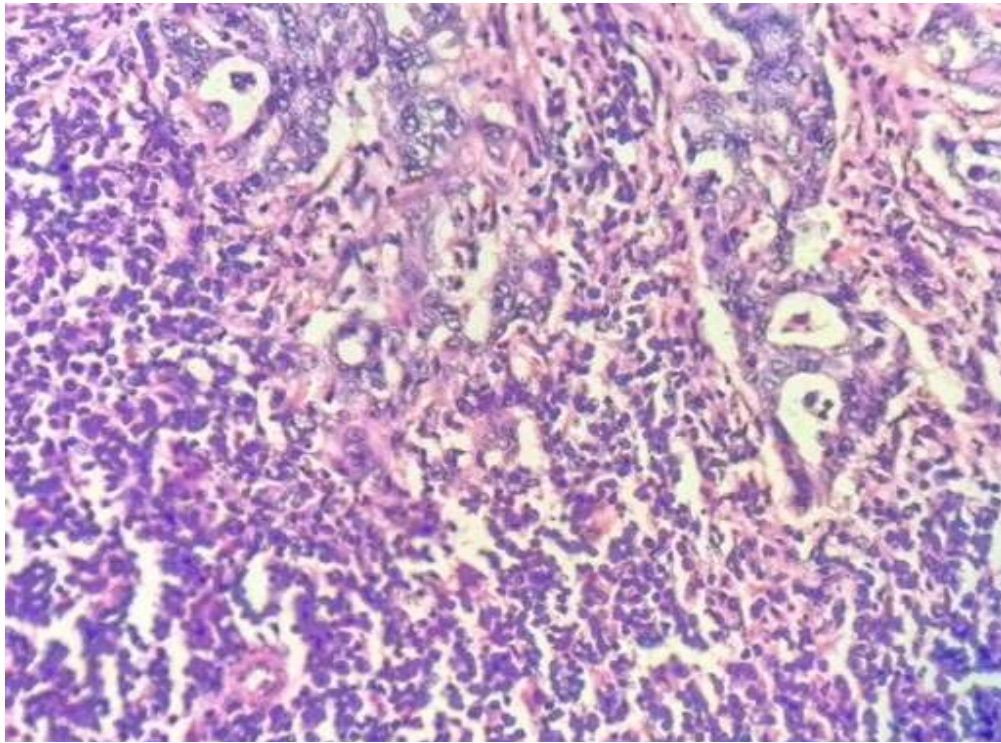
Graph 2:- Grading Of Endometrial Carcinoma



**Pathological Staging Of Endometrial Carcinoma:**

Out of 22 endometrial carcinoma cases, 31.8% (7 cases) were sent as curettage samples and 68.2% (15 cases) were hysterectomy specimens.

In 15 cases, 9 cases (60.06%) had <1/2 of myometrial invasion (Stage IB), 1 case (6.66%) had >1/2 of myometrial invasion (Stage IC) and 2 cases were confined to uterus (Stage IA). There was 1 case (6.66%) in stage IIA with involvement of endocervical mucosa, There were 2 cases (13.3%) in stage III, one having invasion to bilateral ovaries (stage IIIA) another case involving the bilateral pelvic lymph nodes (stage IIIC) (Fig-6) as shown in the table-2.

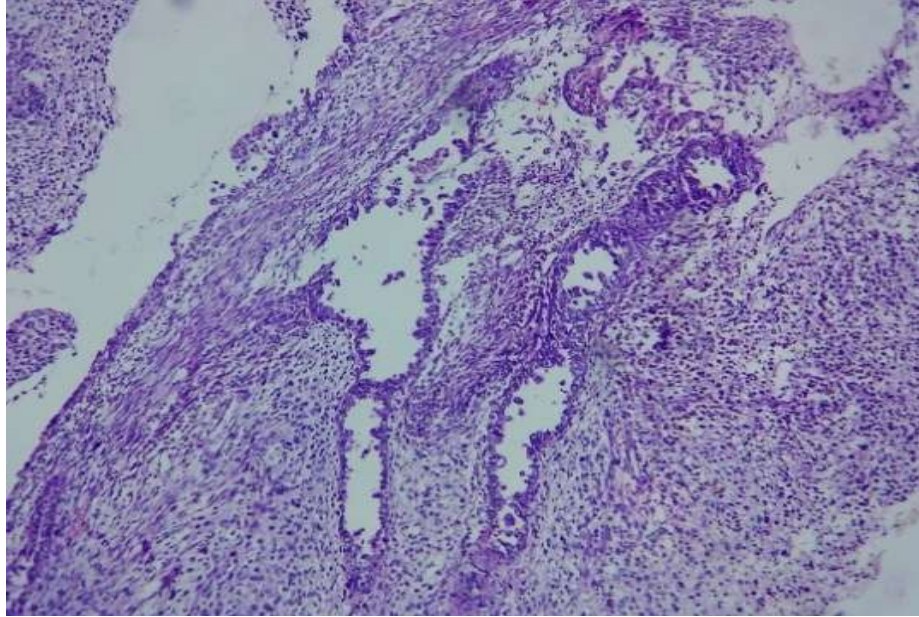


**Fig 6:-** Tumor cells infiltrating the lymph node in endometrioid type of adenocarcinoma (H and E,40x).

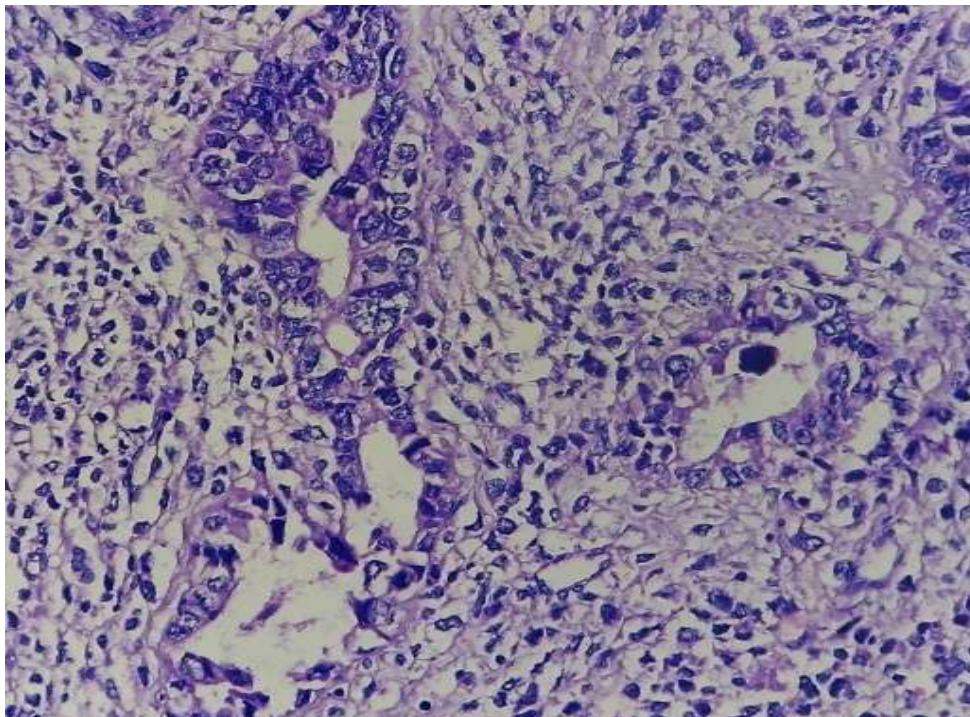
**Table 2:-** Pathological Staging Of Endometrial Carcinoma.

Endometrial carcinoma	Stage I			Stage II		Stage III			Stage IV	
	IA	IB	IC	IIA	IIB	IIIA	IIIB	IIIC	IV A	IV B
Endometrioid adenocarcinoma	2	8	1	1	-	1	-	1	-	-
Carcinosarcoma	-	1	-	-	-	-	-	-	-	-
TOTAL	2	9	1	1	-	1	-	1	-	-
PERCENTAGE(%)	13.3	60.06	6.66	6.66	-	6.66	-	6.66	-	-

In the present study, there was 1 case (0.8%) of carcinosarcoma of uterus. The patient were age 55 years and had attained menopause 18 years back. Uterocervix with bilateral adnexa was sent, which on cut section showed grey white to grey brown growth attached to fundus and anterior surface of endometrium.



**Fig 7:-** Carcinosarcoma showing pleomorphic tumor cell arranged in glandular pattern and in diffuse sheets and fascicles (H and E, 10X).



**Fig 8:-** Carcinosarcoma showing glandular arrangement of tumor cells and sarcomatous component (H and E.40x)

**Discussion:-**

The present study had 22 cases (18%) of endometrial carcinoma. Out of 22 cases, 50% of cases were between 56-65 years age group. Similarly, Naik V. et al<sup>9</sup> had 50% of cases in age 56-65 years and Rizwana Habib Kant. et al<sup>10</sup> had 57.1% of cases between 56-65 years.

There was only 1 case (4.55%) between the age group of 66 to 75 years in the present study. Similarly, study done by Naik V. et al<sup>9</sup> found 1 case each (10%) between 66 to 75 years and above 76 years. However, Rizwana Habib Kant et al<sup>10</sup> had no cases in the age group between 66 to 75 years and above 76 years.

#### **Tumor grading:**

In the present study, 21 endometrial adenocarcinoma were graded according to FIGO grading system. Highest percentage (85.71%) of adenocarcinoma were in grade I. Similarly, study done by Alkushi.et al<sup>11</sup> and Ulla-Maija Haltia.et al<sup>12</sup> also found highest percentage of cases, 50% and 60% of grade I adenocarcinoma respectively in their study.

In the present study, 4.77% cases were in grade III. Similarly, Ulla-Maija Haltia.et al<sup>12</sup> had 15.2% of grade III adenocarcinoma in their study

However, study done by Alkushi A.et al<sup>11</sup> found 37% of cases in grade III and 13% of cases in grade II in their study. In present study, there were 21 cases of endometrial adenocarcinoma with mean age of 58.2 years, whereas the mean age was slightly higher in (62.7 years) in the study done by Inove et al<sup>13</sup>.

In the present study, there was 4.76% of cases were high grade endometrial adenocarcinoma, similarly, Nofech-Mozes.et al<sup>14</sup> and Inove.et al<sup>13</sup> also reported 12% and 13% of high grade endometrial adenocarcinoma respectively.

In present study, 6.66% had myometrial invasion of > than half of myometrium invasion. According to Nofech-Mozes.et al<sup>14</sup>, 70% of patients with the endometrial adenocarcinoma do not invade the outer half of the myometrium<sup>14</sup>. Hence study done by Nofech-Mozes.et al<sup>14</sup> and Inoue. et al<sup>13</sup> 30.1 % and 30% of cases with deep myometrial invasion respectively.

Cervical involvement was found in 6.66% in the present study, whereas Inove. et al<sup>13</sup> reported 18 % and Nofech-Mozes.et al<sup>14</sup> found 20.7% of cases with cervical involvement.

Lymphovascular invasion was detected in 2 cases (13.3%). Nofech-Mozes.et al<sup>14</sup> had 22% and Inoue.et al<sup>13</sup> had 34% of cases with lymphovascular invasion.

#### **Staging Of Endometrial Carcinoma:**

In the present study, out of 22 cases, majority 60% were in stage IB and 13.36% cases in stage IA and there were 6.66% of cases were in stage IC, stage IIA, stage IIIA and stage IIIC. However, study done by Ulla-Maija Haltia.et al<sup>12</sup> showed majority, 59% of cases in stage IA followed by 18.5% of cases in stage IB. and 0.7% of cases were in stage IIIB. Ulla-Maija Haltia.et al<sup>12</sup> also found 2.9% of cases in stage IV.

#### **Uterine Carcinosarcoma:**

The present study included a single case of carcinosarcoma in a patient aged 55 years with history of PMB, The duration of menopause in carcinosarcoma was 18 years in the present study. Microscopically carcinosarcoma showed pleomorphic round to oval tumor cell arranged in diffuse sheets and fascicles. Amidst these were seen glands lined by tumor cells. Tumor cells were seen infiltrating greater than half of myometrium (stage IB).

Dinh Tung V.et al<sup>15</sup> studied 47 cases of carcinosarcoma cases where the mean age was 64.3 years. 23% (11 cases) presented with the tumor after 1-10 years of menopause and 74% of cases presented above 10 years duration of menopause<sup>15</sup>. Dinh Tung V.et al<sup>15</sup> also noted that 77% of cases were stage I. 1 cases was stage II, 15% of cases were stage III and 6% were stage IV. All patient with uterine carcinosarcoma in the study of Dinh Tung V.et al<sup>15</sup> reported that majority of cases in their series were postmenopausal with a duration of menopause of 10 years or more.

#### **Conclusion:-**

In our study out of 122 cases of postmenopausal bleeding there were 22 cases of endometrial carcinoma. In 22 cases 21 were endometrial adenocarcinoma, 1 case was carcinosarcoma. majority were in 56 to 65 years. There were various histopathological patterns showing endometrioid type, endometrioid type with papillary differentiation, squamous differentiation, mucinous differentiation and 1 case of showing carcinosarcoma.

Majority, 18 cases (85.7%) were in Grade I, 2 cases (9.5%) were in Grade II and 1 cases were in Grade III.

Out of 22 cases 15 cases were hysterectomy specimen, 7 cases were curettage samples. In 15 cases, 2 cases were confined to uterus (Stage IA), 9 cases (60.6%) were stage IB, 1 case was stage IC.

There was 1 case in stage IIA with involvement of endocervical mucosa, there were 2 cases in stage III with each showing involvement of bilateral ovaries (Stage IIIA) and bilateral pelvic lymph nodes (Stage IIIC).

In our study there were 1 case of carcinosarcoma in stage IB in the age group 55 years. Hence postmenopausal bleeding is a dreaded and alarming symptom and requires complete evaluation in order to ensure the absence of malignancy and to identify and treat high patients.

### Reference:-

1. Dawood NS, Peter K, Ibrar F, Dawood A. Postmenopausal bleeding: causes and risk of genital malignancy. *J Ayub Med Coll Abbottabad*. 2010 ;22(2):117-119.
2. K .Astrup and N.D.F .Olivarius. "Frequency of spontaneously occurring postmenopausal bleeding in the general population" *Acta Obstetrica et Gynecologica Scandinavica*. Vol 83 no2, pp 203-207.2004.
3. Adams Hillard PJ. Benign disease of the female reproductive tract. In: Berek JS, Rinehart RD, Adashi EY editors, *Berek and Novak's Gynecology*. 14<sup>th</sup> ed. Lippincott Williams; 2007. p 490-491
4. Jonathan S. Berek, Endometrial cancer. In: Berek and Novak's *Gynecology*. 15<sup>th</sup> ed. Lippincott Williams and Wilkins; 2007. p 1251
5. E. Epstein, "Management of postmenopausal bleeding in Sweden : a need for increased use of hydrosoneography and hysteroscopy," *Acta Obstetrica et Gynecologica Scandinavica*, vol 83, no.1 pp 89-95.2004
6. R.B. Goldstein, R.L. Bree, C.B. Benson, et al., "Evaluation of the women with postmenopausal bleeding: society of radiologists in ultrasound-sponsored consensus conference statement" *Journal of Ultrasound in Medicine*, vol.20, no.10, pp 1025-1036, 2001
7. NVOG (Dutch Society of Obstetrics and Gynaecology), "NVOG-richtlijn Abnormal Vaginal Bloedverlies in de Menopauze." (in Dutch) 2003
8. Scottish Intercollegiate Guidelines Network, *Investigation of Postmenopausal Bleeding*, 2002
9. Veena S. Naik, Jyoti D. Rege, Kusum D. Jashnani. Pathology of genital tract in postmenopausal bleeding. *Bombay Hospital J* [www.bhj.org/journal/2005\\_4703\\_july/html](http://www.bhj.org/journal/2005_4703_july/html)
10. Rizwana Habib Kant, Aasif Iqbal Escoffery CT, Blake GO, Sargeant LA. Histopathologic findings in women with postmenopausal bleeding in Jamaica. *West Indian Med J* 2002 Dec; 51 (4):232-235
11. Abdul Mohsen Alkushi, Zainab H. Abdul-Rahman, Peter Lim, Micheal Scuzlzer, Andrew Coldman, et al. Description of a novel system for grading of endometrial carcinoma and comparison with existing grading systems. *Am J Surg Pathol* 2005; 29:295-304.
12. Haltia U, Butzow R, Leminen A, Loukovaara M. FIGO 1988 versus 2009 staging for endometrial carcinoma: a comparative study on prediction of survival and stage distribution according to histological subtype. *Journal of Gynecologic Oncology* 2014; 25(1):30
13. Inoue Y, Obata K, Abe k, Ohmura G, Doh K, Yoshioka T et al. The prognostic significance of vascular invasion by endometrial carcinoma. *Cancer*. 1996; 78(7):1447-1451.
14. Sharon Nofech-Mozes, Zeina Ghorab, Nadia Ismail, Ida Ackerman, Gillian Thomas, et al. Endometrial endometrioid adenocarcinoma. *Am J Clin Pathol* 2008 ; 129: p 110-114
15. Dinh T, Richard E, Slavin, Bellur S Bhagavan. Hannigan E V, Esperanza M, Tiamson et al. Mixed Mullerian Tumors of the uterus: A Clinicopathological study. *Obstetric and Gynecology*. 1989; 74(3):388-392.