

A Case Study on Different Morphological Patterns and Incidence of Synchronous Endometrial Carcinoma in A Tertiary Care CentreVelayutham Sumathi¹, B. Indumati², Vishnu Pratap³¹Associate Professor, Department of Pathology K.A.P.V Government Medical College²Assistant Professor, Department of Pathology K.A.P.V Government Medical College³Assistant Professor, Department of pathology K.A.P.V Government Medical College

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Conflict of interest: Nil

Abstract:

Introduction: Endometrial Adenocarcinoma by far is the most common malignant tumors of the uterine corpus, which are divided into endometrioid and special variant types. It is frequently observed in elderly age group with varied morphological patterns. The objective of this study is to delineate different histologic presentation and associated condition with endometrial carcinoma.

Aim: The aim of the study is to delineate different morphological presentation associated with endometrial carcinoma. To differentiate other aggressive types as they have prognostic outcomes.

Methods: The study was conducted in Department of Pathology, KAP Viswanatham Government Medical College Trichy on 24 cases of surgically resected specimens diagnosed as endometrial carcinoma over a period of 19 months from June 2021 to December 2022. Routine formalin fixed, paraffin embedded tissue sections stained with H&E done was taken for this study.

Result: In this study, we observed the most frequent types of endometrial carcinoma was endometrioid and common presentation was as a proliferative growth. The common age group in our study was between the ages of 50 and 60. On the other hand, instances of endometrial carcinoma associated with fibroids tend to be observed in individuals aged 40 to 60. Furthermore, our study documented an interesting case where a 35-year-old woman had both endometrial carcinoma and ovarian carcinoma at the same time.

Conclusion: The average age range for the occurrence of endometrioid adenocarcinoma in our study was between 50 and 60 years. The most common type was endometrioid (79.5%) , the next most common was high grade serous carcinoma (8.2%) ,most of our cases was observed to be isolated (37.6 %) followed by atypical hyperplasia (25%).

Keywords: Endometrial Carcinoma, , Atypical Hyperplasia, Synchronous Malignancy.

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Introduction

The common malignancy seen in women between the ages of 35 – 70 years is uterine carcinoma. Endometrial carcinoma is the fifth leading cancer among women globally. Most common gynaecologic malignancy in developed countries and the 2nd most common after carcinoma cervix in the developing countries.

Endometrial cancers classified into two broad histological types. Type 1 form the Endometrioid carcinoma and its variants. Type 2 constitutes serous carcinoma, clear cell carcinoma and Carcinosarcoma. Type 1 is most common forming the major bulk of cases (80%).

Synchronous malignancies occurring in the female genital tract are exceptionally uncommon, accounting for approximately 0.5-1.7% of cases. Among these, the most prevalent type of

malignancy is the synchronous occurrence of endometrial and ovarian tumors, observed in 5% of endometrial primary tumors and 10% of ovarian primary tumors. Uterine carcinosarcomas, characterized by the presence of both carcinomatous and sarcomatous components, are particularly aggressive and represent a rare form of neoplasm.

Material and methods

This retrospective study involved 24 cases of endometrial carcinoma diagnosed at Govt K.A.P.V Medical College, Trichy, spanning from June 2021 to December 2022. Embedded paraffin blocks were sectioned with microtome onto 3-5 micron thickness and stained with Haematoxylin and Eosin stain. Routine formalin fixed, paraffin embedded

tissue sections stained with H&E was done for this study.

The staining included rehydration by gradually transitioning from higher to lower concentration of alcohol until reaching water, pigments resulting from fixatives were removed. Subsequently, the sections were washed in running tap water and differentiation achieved by dipping in 1% acid alcohol for 5 – 10 seconds. Stained with Eosin washed in tap water and slides were examined under light microscope and observation recorded.

Results

Among the 24 cases of endometrial carcinoma examined, it was observed that the most prevalent histological subtype was endometrioid adenocarcinoma, with one instance of carcinosarcoma. The occurrence of endometrial carcinoma as a polypoidal lesion was noted in 21% of cases. cases manifested as friable growth, accounting for approximately 41% of the total. Furthermore, most of the cases were presented as isolated tumours, whereas 6 cases were associated with atypical hyperplasia accounting for 25%. Cases (16.6%) exhibited an association with adjacent fibroids, some of which displayed calcification.

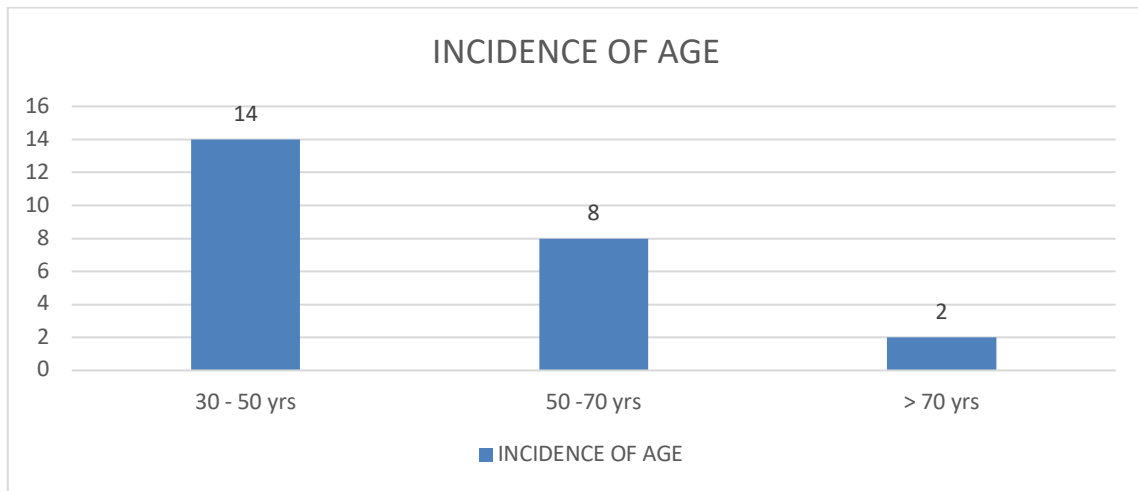


Figure 1:

In our study we have included the specimens received between the age group of 30 to 75 years. Our study showed most common age group for endometrial carcinoma was in the reproductive age group between 30 to 50 years (58.4). Only 2 cases (8.3 %) were seen in more than 70 years age group.

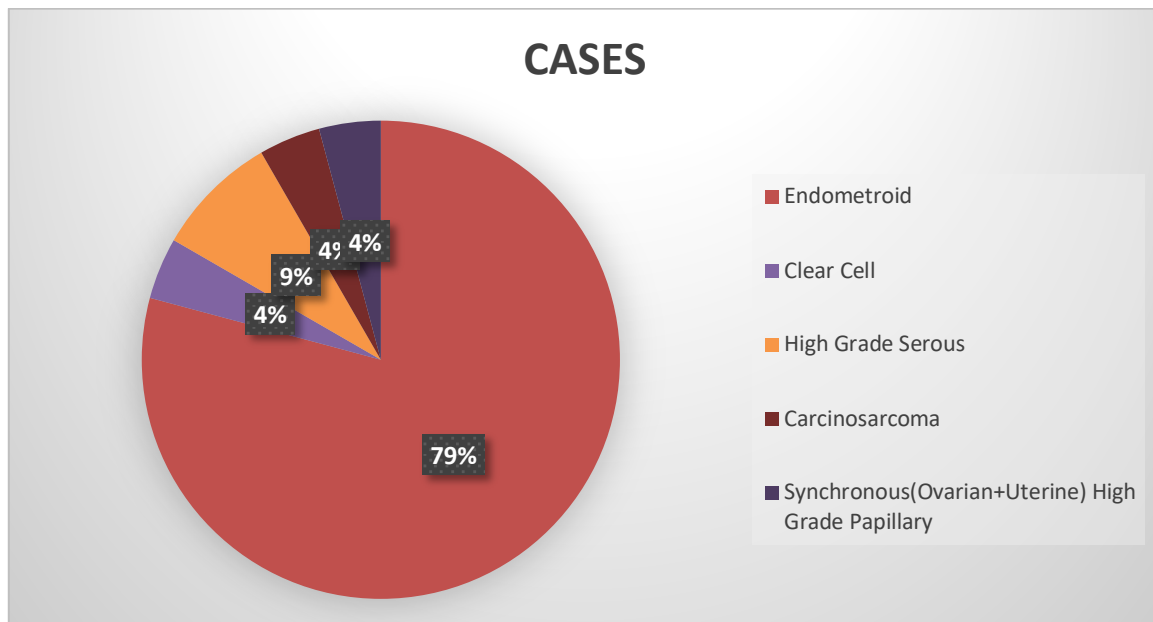


Figure 2:

Table 1: Distribution of Subtypes of Endometrial Carcinoma

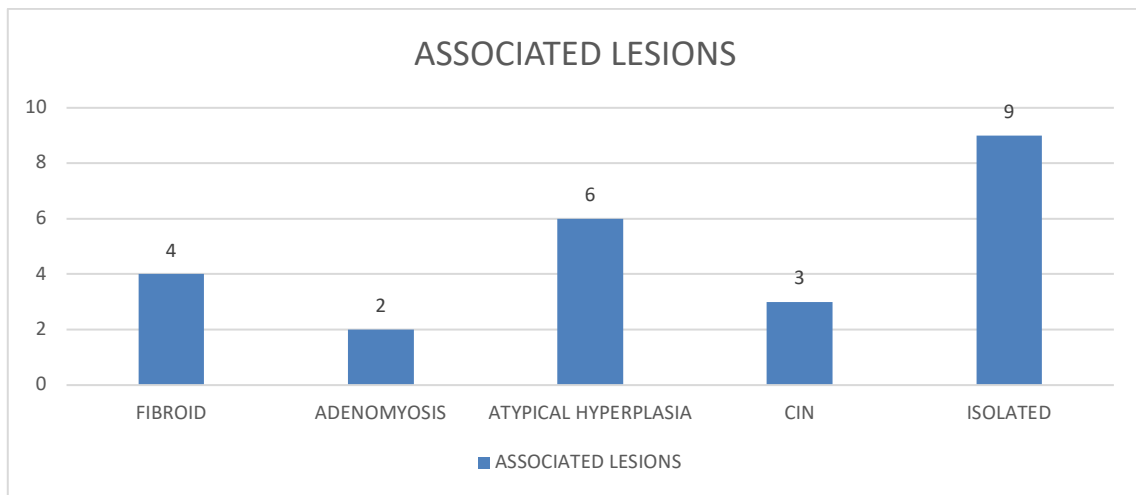
Histologic Subtype	30 – 50 years	50 – 70 years	>70 years
Endometrioid	11	8	-
Clear Cell	1	-	-
High Grade Serous	1	-	1
Carcinosarcoma	-	-	1
Synchronous(Ovarian+Uterine) High Grade Papillary	1	-	-

Our study included the distribution of different variants of endometrial carcinoma⁽⁶⁾. Most of the cases were endometrioid adenocarcinoma constituting 79.5 %. The next common was 2 cases of high grade serous (8.2%) we had one case of clear cell carcinoma and one case of carcinosarcoma forming 4.1 % each.

Table 2: Associated lesions in Endometrial Carcinoma

Associated Lesions	Cases	Percentage
Fibroid	4	16.6
Adenomyosis	2	8.3
Atypical Hyperplasia	6	25
Cin	3	12.5
Isolated	9	37.6

This study also includes the associated lesions with endometrial carcinoma in our hospital. Most of the cases were isolated with no other pathology constituting 37.6 % followed by atypical hyperplasia of 6 cases (25%). The least common lesion was adenomyosis constituting 8.3 %.

**Figure 3:**

Discussion

Endometrial Carcinoma is the most frequent malignancy encountered in gynaecologic practice. [5] Most of the pathological lesions of the uterine corpus presents with abnormal bleeding. The most common cause in the elderly age group is endometrial carcinoma. In the reproductive age group benign lesions such as fibroid, adenomyosis and endometrial hyperplasia are the associated lesions. The most prevalent type of endometrial carcinoma in endometrioid adenocarcinoma [13] characterized by the presence of malignant glandular epithelial elements intermingled with squamous metaplasia [4]. The development of most endometrioid carcinomas is associated with hyperestrogenic conditions which can arise from either exogenous or endogenous estrogenic

exposure complied with a relative deficiency of progesterone. Additionally androgens and growth factors are also implicated in the etiology of endometrioid adenocarcinoma.

Non-endometrioid carcinoma typically arises within the context of atrophic endometrium particularly in elderly women with epithelial malignancies account for over 90% of endometrial cancers with the most prevalent histologic subtype being endometrioid adenocarcinoma originating from the inner layer (Endometrium) of the uterus. Additionally we had one case of carcinosarcoma which arises from both the inner and outer layer (myometrium) of the uterus. Uterine Carcinosarcomas are rare and aggressive undifferentiated carcinomas that encompass both carcinomatous and sarcomatous elements [9].

Prognosis is typically poor with 30 – 40 % of cases presenting extrauterine involvement at the time of diagnosis. [3] Commonly associated mutations include Tp53 and alterations in P13K pathway genes proving potential targets for therapeutic intervention [10].

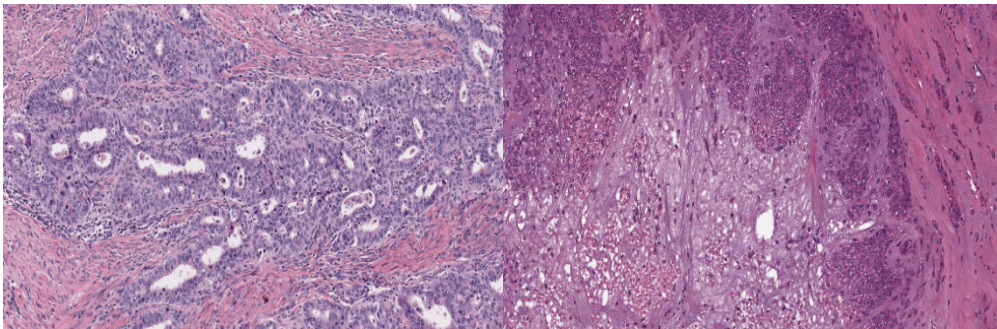
Endometrial serous carcinoma accounts for approximately 10% of cases, mostly classified under type -2 endometrial cancer. It has a higher propensity for lymphovascular invasion and intraperitoneal as well as extra-abdominal spread than endometrioid carcinoma. In our study we had 2 cases accounting for 8.2 %. Clear cell carcinoma was the least frequent endometrial carcinoma. 4% in our study and lower than the results of other studies conducted by Imrana and 5% Mohammed Synchronous malignancies occurring in the female genital tract are exceptionally uncommon accounting for approximately 0.5 – 1.7 % of cases. [12] Among these the most prevalent type of malignancy is the synchronous recurrence of endometrial and ovarian tumors observed in 5% of endometrial primary tumors and 10 % of ovarian primary tumors [1]. In our study we had 1 case of synchronous malignancy in the age group of 30 to

50 years accounting for 4.1% which is consistent with other studies.

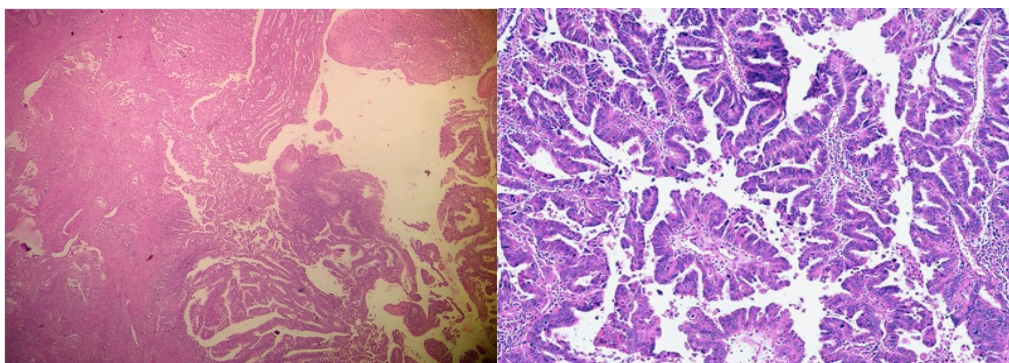
Most of the cases of endometrial carcinoma presents with history of postmenopausal bleeding or abnormal uterine bleeding. In our institution we received 24 cases of hysterectomy cases among which 6 cases presented with increased endometrial thickness. 5 cases presented as endometrial polyp 9. 10 cases presented with proliferative growth in the endometrial cavity. 3 cases were identified as endometrial carcinoma incidentally. Certain carcinomas are limited to the polyp among which serous carcinoma is the most commonly associated lesion. We received totally 12 polyps out of which 5 cases were identified as endometrial carcinoma. All the other cases were benign polyp.

Many precursor tumours were present in case of endometrial carcinoma. Most commonly they presented as isolated lesions. Some cancers were associated with endometrial hyperplasia. Adenomyosis and fibroids were associated in younger women. CIN 3 constitutes 12.3 % in our institute [11].

Figures and Illustration



Endometrioid Carcinosarcoma



Synchronous High Grade Papillary

Conclusion

Endometrial cancer is one of the common gynaecological cancer in our institution. The most common histological variant is endometrial adenocarcinoma. The common age group of

endometrial carcinoma in our institution is 50 – 60 years. High grade carcinomas seen in elderly age.

The least common carcinoma is clear cell carcinoma. The commonest presentation was proliferative growth, few cases presented as polyps.

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