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A Study of Endometrial Carcinoma With Emphasis on Morphologically Variant Types. A Comprehensive Analysis of 50 Cases.(Three Years Period Study.)

*[1]Dr. M.Vijaya Sree, [2]Dr. C. Padmavathi Devi
Prof of pathology, Vijaya Sree, Prof & Hod. Guntur Medical College.
Corresponding Author Dr. M.

Abstract: *A series of 50 cases of Endometrial Carcinomas seen over a three year period is reviewed. The majority are EndometriodCarcinomas which constitutes 44 (88%) cases. Among the Endometriod Carcinomas villoglandular differentiation commonest constitutes about 39 (82%) of cases followed by squamous differentiation (14%) of cases and secretory types.A Modified histologic classification, the theories ofhistogenisis and the clinical biologicbehaviour are presented and discussed. Histological grading was done, and followed cap protocol where ever necessary.*

Keywords: *Endometrial Carcinoma, Morphologic feature*s.

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I. Introduction

Endometrial Carcinoma represents the most frequently diagnosed malignancy of the female genital tract (Ref I). Most of Endometrial Carcinomas are of Endometriodhistotype are confined to uterus at presentation and as such are associated with favourable patient out come (Ref-2). The non Endometrial Carcinomas are associated with much poorer out come. This necessitates, that the Pathologic classifiction of cases be accurate and reproducible as erroneous classifications in either direction may have significant clinical consequences (Ref-3).The seminel descriptions of the morphology of Endometrial Carcinomas were largely based on the then well knownfeatures of their ovarian counter parts (Ref-4) in keeping with the general principle that carcinomahistotypes arising from different anatomic derivatives of the Mullerian duct exhibit broadly similar histologic features. However this assumption may obscure the recognition of subtle location related differences and serve as impediment to the definition of the true phenotypic spectrum of the histotype at each location.In this study we analyzed the clinical and morphological features of Endometrial Carcinoma.

II. Aims And Objectives

1. Review the biology of the major types of Endometrial adenocarcinomas.
2. Examine the application of and significance of the cap Template for Endometrial Cancer.
3. Examine the utility and limitations of the figo staging scheme for Endometrial Cancer.

III. Materials And Methods

We included a total of 50 cases of Endometrial Carcinoma over three year period. Endometrial Scrapings, Radical hysterectomy specimens and slides received from outside hospital are also included in this study. The tissues are routinely processed and sections are stained with Haematoxylin and Eosion. Cap protocol and Figo staging was applied for Radical hysterectomy specimens. As per the WHO Endometrial Carcinomas are primarly graded based on their architecture. (Ref-5) Grade I – less than 5% solid growth Patterns. Grade-II – 6 to 50% solid growth pattern. Grade-III - More than 50% solid growth pattern.The nuclear grading is done by variation in nuclear size, and shape, chromatindistribution and size of nucleoli. The grade of tumor that are architecturally grade I (or) 2 should be increasedby one grade in the presence of nuclear atypia defined as grade 3 nucleoli.The information on the depth of myometrialinvasion, presence of Endometrial polyps and lymphovascular invasion status were also reviewed.Figo staging was done for all radical hystrectomy specimens. We appliedFigo staging for 35 (70%) case of Radical hystrectomy specimens

IV. Results

Table – I

Age distribution ofendometrial Carcinoma

Age	**No of Cases**	**%**
30 – 40	6	12%
41 – 50	15	30%
51 – 60	18	36%
61 – 70	8	16%
71 – 80	3	6%
Total	**50**	**100**

The commonest are group is between 51 – 60 years

TABLE – II The distribution of various types of Endometrial Carcinomas

Age	**Endometriod**	**%**	**Serous**	**%**
30 – 40	6	12%	--	--
41 – 50	14	28%	--	--
51 – 60	15	30%	3	6%
61 – 70	8	16%	--	--
71 – 80	4	8%	--	--

EndometriodCarcinoma is the commonest type

TABLE – III The distribution of various types of Endometriod carcinomas

Type	**No of Cases**	**% of case**
Squamous differention	7	14 %
Villoglandular	39	82 %
Secretory	1	2 %
Total	47	

Villoglandularvarientis commonesttype.

TABLE – IV The Grading and Dept of Invasion in to myometrium.

Age	**Grade – I**	**Grade – II**	**Grade – III**	**< 50% of Invasion**	**< 50% of Invasion**
31-40	1 (2%)	5(10%)	-	-	
41-50	10 (20%)	5(10%)	-	9(25%)	
51-60	10 (20%)	13(26%)	1(2%)	15(42%)	3(8%)
61-70	-	-	2(4%)	7(20%)	
71-80	-	3(6%)	-	1(2.8%)	

Grade II type is commonest and < 50 of Invasion in to myometrium commonly observed.

TABLE – VFIGO Staging of Endometrial carcinoma

Age	**Stage**		**Stage**		**Stage**		**Stage**	
	IA	**IB**	**IIA**	**IIB**	**IIIA**	**IIIB**	**IVA**	**IVB**
31-40	-	-	-	-	-	-	-	-
41-50	5	4	-	-	5	-	-	-
51-60	5	6	2	-	-	-	-	-
61-70	5	-	2	-	-	-	-	1
71-80	-	-	-	-	-	-	-	-
	15 (42%)	10(28 %)	4	0	5(14%)	0	0	1(28%)

Stage 1A commonest type.

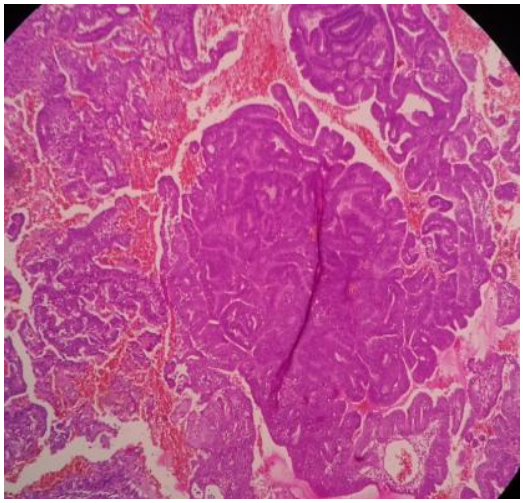


Fig 1 .Low power view of Endometrioid Carcinoma with glandular architecture.
(H & E, x200x)

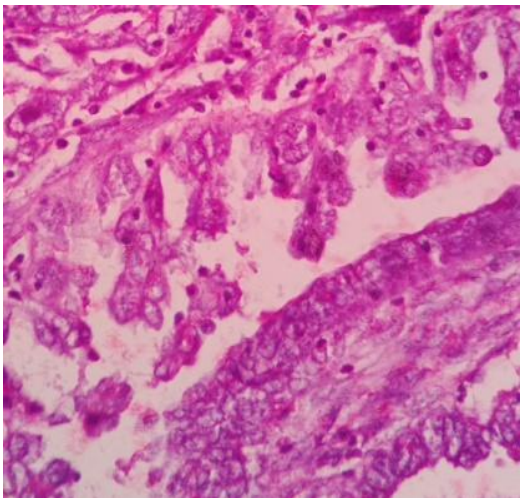
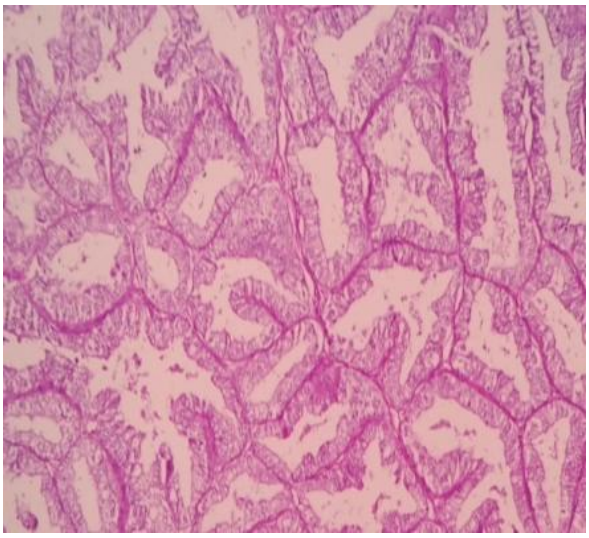


Fig 2. High power view of Endometrioid Carcinoma with villoglandular areas.
(H &E, x400x)



Low power view of well differentiated Endometrioid Adenocarcinoma. (H & E, x200x)

V. Discussion

Ability to diagnose adenocarcinoma in an endometrial sampling is highly dependent on adequancy of the specimen.The endometrial sampling is ascreeningtool,but unfortunately not all of the endometrium may be represented in any given sample,so the presence of a myometrial lesion cannot be assessed.Mostpathologists and surgeons assume that the presence of cancer in the myometrium is associated with cancer in endometrium.In all such instances where biopsy specimen isinadequate,resamplingwithadditional imaging studies should be considered,especially if there is a concern for adenocarcinoma.We encountered malignancies in different age groups.Advanced age adversely affects survival in endometrialcarcinoma.Women with papillary ,serous and squamous differentiation have an older median age than women with endometroidadenocarcinoma.The differential diagnosis of endometrial hyperplasia and well differentiated adenocarcinoma is complicated not only by the resemblance of these lesions to each other, but also by their tendency to be over diagnosed (particulary hyperplasia) on the back ground of polyps,endometritis,artifacts and even normally cycling endometrium. Morphology is the key to the diagnosis and subtyping of theasebiopsies.However,this should be combined with clinlcalhistory,grossexamination and appropriate sampling.Classical morphological features usually allow for correctdiagnosis.Difficulties may arise when tumor

show unusual morphology,are high grade (or) mixed. Non primary endometrial carcinoma for example ,tumors of cervix,fallopian tubeovary,peritoneum (or) other pelvic organs can also mimic different sub types of endometrial tumors and can be of diagnosticchallenges.Endometrial Carcinomas are a heterogenous group of tumors withvariable morphology and clinical behaviour.Histologic sub classification of thesetumors is important as it has significanttherapaticand prognostic implications, this can be achived with examination of hematoxylion and Eosin stained (H & E) slidesalone in most cases. Endometrial Carcinomas are divided in to two types.type I and type II as described by Bokhmon (Ref-5) . Endometrial Carcinomas of type-I tumors are typically low grade tumors that are associated with estrogen excess and pursefavourable clinical out come. Where as serous carcinomas are prototype –II tumors are high grade aggressive tumors associated with poor clinicalout come. Endometrial serous Carcinomas are usually described as tumors with prominentpapillary architecture, markedly atypical nuclei and frequent association withpsammoma bodies(Ref-6). Although uterine serous Carcinomas can show thesetypicalfeauture, there are substantial number that donot, these are composed entirely(or) predominantly of glands and (or) solid areas with out a prominent papillarycomponent (Ref 7,8). Diffuse nuclear atypia although characteristic of serous carcinoma is not evident in every case. Similarly although endometrial carcinomas are often glandular and may show solid growth and squamous (or) Mucinous differentiation, there are some Endometrial Carcinomas with a prominent Papillary architecture (Ref 9). Endometrial Carcinomas can have Micro papillae and slit likeglandular spaces and sometimes associated with psamommabodies (Ref 10). Distinction between uterine serous carcinoma and EndaometrialCarcinoma is clinically very important. Serous carcinoma of the Endometrium are the protype of type 2 tumors that are frequently have extra uterinedisease and purse anaggressive clinicalbehaviour (Ref 5, 10, 11, 12, 13) Endometrial Carcinoma (type I umors) especially when low grade are associated with favourableout come.uterine serous carcinoma are charecterstically metastasize to the peritoneum. even most frequentlythan other high grade Endometrial Carcinoma.In our study a total number of 50 cases are included. The majority endometriodtype-47 (94%) and serous carcinoma constitutes about 3(6%). The commonest age group is between 51-60similar to study done by (Kaku T. et al Ref 16).Among the endometriod type villoglandular differentiation commonest type. It accounts about 39(82%) of cases. squamous differentiaton 7(14%) of cases, and Secretory type. 1(2%) of cases. In our study out of three serous carcinomas in one case of serous carcinoma we observed metastasis inlung and Brain and purse an aggressive clinical behaviour (Ref 10,11).Histologial grading was done as per WHO norms. The majority are grade II 26(52%), grade I – 21(42%) and grade III-3(6%) cases. Figo staging was applied for hysterectomy specimens. The depth of Invasionin to myometium and lymphovascularstatus was assessed. Themyometrial invasion is less than <50% in 32(89%) and more than 50 % in 3(8%) of cases. Out of 35 cases stag 1A are 15(42%) similar to study conducted by (Disaiaesment.etal Ref 17), stage IB 10(28%), stage II A 4(12%) stage IIIA 5(14%) and stage IV B 1case (2.8%) Endometrial Carcinoma

VI. Conclusion

The diagnosis of endometrial adenocarcinoma in biopsy, curettageand hysterectomy specimens, is based primarily on glandular architecture and cytologicalfeatures.Adequate sampling with thorough morphologic assessment andimmunoprofile is essential for accurate assessment.Mophology is the key for subcategoriningtumors.However in high grade tumors immunohistochemistry is of valuble help. Endometrial carcinomas has a wide morphologic spectrum. It has corecytoarchitectural features that are of high diagnostic utility,awareness of the full morphologic spectrum, as well as how focal (or) extensive Individual featuresmaybewith in a given tumor,should allow accurate diagnosis to be rendered in most cases. Figo stage, age, histological grade, depth of myometrial Invasion and lymphovascular invasion are the most important predictors of lymphnode involvement andout come and generally apply equally to endometroid carcinoma and its varients. The risk of nodal spread and recurrence is related to depth of myometrial Invasion.

Outer half myometrial Invasion is associated with a significantly diminished survival.

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