



A study of microscopic features of endometrial carcinomas

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Abstract:

We present microscopic study of 10 cases of endometrial carcinomas. we studied retrospectively for 1 year. For all the 10 cases we analysed the microscopic features and age at diagnosis. In this we observed that well differentiated endometrioid carcinoma is the most common type of endometrial carcinoma and common age incidence was between 51 – 60 years. We also realised that it is very important to differentiate between villoglandular variant of endometrioid carcinoma and serous carcinoma as they both presented microscopically with prominent papillary pattern.

Key words: Endometrioid carcinoma, serous carcinoma, villoglandular variant.

Introduction:

Ninety-seven percent of all cancers of the uterus arise from the glands of the endometrium and are known as endometrial carcinomas [1]. Worldwide, approximately, 150,000 cases are diagnosed each year, making endometrial carcinoma the fifth most common cancer in women [2,3]. It typically occurs in elderly individuals, 80% of the patients being postmenopausal at the time of diagnosis [1]. Endometrial carcinomas can be divided in two distinct types on the basis of their pathogenesis, type I and type II. Type I is the more common, endometrioid type occurring as a result of excess estrogenic stimulation and developing against a background of endometrial hyperplasia and the type II is occurs denovo [4-8] This type II carcinoma appears to be unrelated to hormonal factors and hyperplasia [9]. Serous carcinoma is the prototypic endometrial carcinoma that is not related to estrogenic stimulation and represents the type II carcinoma. Hereditary nonpolyposis colorectal carcinoma (HNPCC; Lynch syndrome) patients have an increased incidence of endometrial carcinoma, often presenting at a young age [10]. Many of the tumors have a nonendometrioid histology and are high grade tumors [11].

Materials and Methods

This is a retrospective study for one year, March 2014 to February 2015. In this period we received 10 cases of endometrial carcinomas. All these cases presented with vaginal bleeding. For all cases endometrial biopsy was done which showed features positive for malignancy. We also received hysterectomy specimens for these ten cases. All these 10 cases of endometrial carcinomas were examined to determine the most frequent type of endometrial carcinoma, age incidence and microscopic features of endometrial carcinomas.

Results

Out of 10 cases nine (90%) had endometrioid carcinoma, one (10%) had serous carcinoma. Maximum patients, seven cases of endometrioid carcinoma, belonged to age group of 51-60 years (70%), and two cases of endometrioid carcinoma and one case of serous carcinoma presented after 60 years of age.

Among the endometrial carcinomas, seven were well differentiated, one case was poorly differentiated and one case was villoglandular variant of endometrioid carcinoma.

Discussion

Microscopically, approximately 80% of endometrial malignant epithelial tumors are conventional adenocarcinomas that is endometrioid adenocarcinomas, which are usually divided into well differentiated (grade I, 50%), moderately differentiated (grade II, 35%), and poorly differentiated (grade III, 15%) of tumors. The FIGO three-grade system is primarily based on the growth pattern that is relative proportion of glandular and solid areas, but it also makes provision for nuclear atypia [12]. The stroma of endometrial adenocarcinoma usually has a desmoplastic quality, but occasionally it may be almost completely absent, even in the presence of a diffusely infiltrative tumor [13].

Some such as adenoacanthoma, adenosquamous carcinoma, ciliated carcinoma are variants of endometrioid carcinomas.

In our study also there is clear predominance of endometrioid carcinoma (9 out of 10 cases) compared to serous carcinoma (1 out of 10 cases).

In nine cases of endometrioid carcinomas seven cases were well differentiated type, one case was poorly differentiated type, one case was villoglandular variant of endometrioid carcinoma.

Well differentiated types are microscopically characterised by well formed glands, while the stroma was reduced and in few cases shows desmoplastic stroma. Nucleus is grade I, which shows mild enlargement, hyperchromatism with evenly distributed chromatin and round to oval in shape.

One case of poorly differentiated type shows rare glandular structures and tumor cells arranged predominantly in solid sheets. Nucleus of these cells was markedly enlarged, pleomorphic with irregularly distributed coarse chromatin and prominent nucleoli.

One case of villoglandular carcinoma, which is a variant of endometrioid carcinoma also studied microscopically. In this papillary fronds are composed of a thin, delicate fibrovascular core covered by columnar cells that showed mild (grade I) atypia.

Type II endometrial carcinoma that is serous carcinoma presented microscopically with predominance of papillary pattern. These papillae are lined by round to polygonal cells having eosinophilic cytoplasm. Nucleus shows marked nuclear atypia (grade 3).

In our study microscopically both serous carcinoma and villoglandular carcinoma presented

with prominent papillary pattern. But in contrast to serous carcinoma, villoglandular carcinoma have long delicate papillary fronds and covered by columnar cells with only mild to moderate nuclear atypia. Whereas serous carcinoma tend to have shorter, thick, densely fibrotic papillary fronds. The nuclei of serous carcinoma are highly pleomorphic and atypical (grade III). It is very important to differentiate these two types of carcinomas, as serous carcinoma has got poor prognosis than villoglandular variant of endometrioid carcinoma.

More importantly serous carcinoma has a propensity for myometrial and lymphatic invasion. In addition, intraepithelial carcinoma similar to that involving endometrium has been reported on the surface of the ovaries, peritoneum, and mucosa of the endocervix and fallopian tube in the absence of gross disease in these sites.^(14,15) Involvement of peritoneal surfaces in the pelvis and abdomen, as in ovarian serous carcinoma, occurs early in the course of disease.

Conclusion :

In this study we diagnosed more cases of endometrioid carcinomas (type I endometrial carcinoma) and only one case of serous carcinoma which belongs to type II endometrial carcinoma. Maximum patients belonged to the age group of 51-60 years. Serous carcinoma presented grossly as well as microscopically with papillary pattern of growth.



Figure 1. Gross of endometrial carcinoma, growth involving Endometrial cavity.



Figure 2. gross of serous carcinoma.

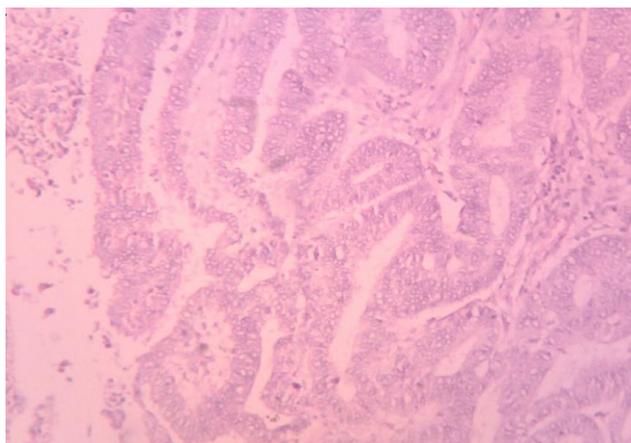


Figure 3. well differentiated endometrioid carcinoma (H&E,10X)

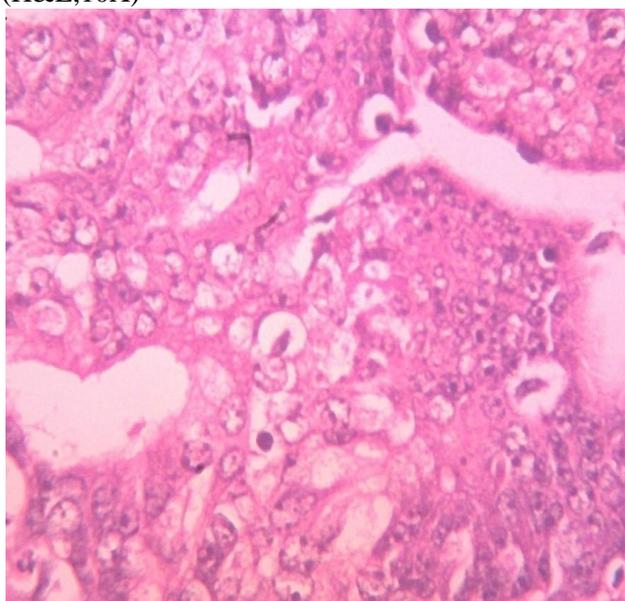


Figure 4. poorly differentiated endometrioid carcinoma (H&E,40X)

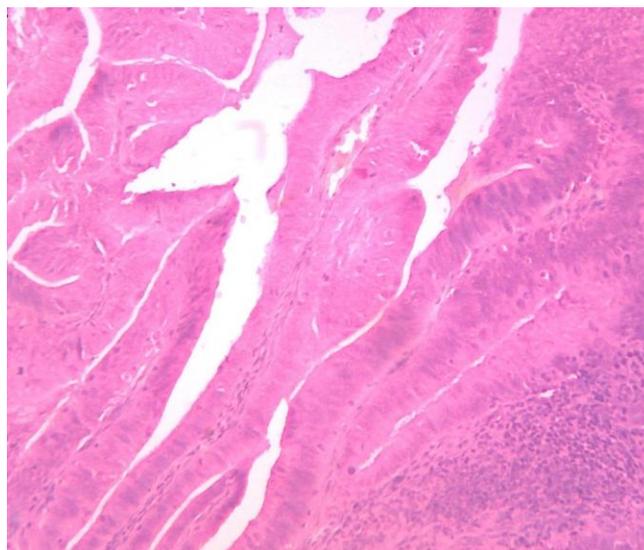


Figure 5. grade 1 nuclei, in villoglandular carcinoma (10X)

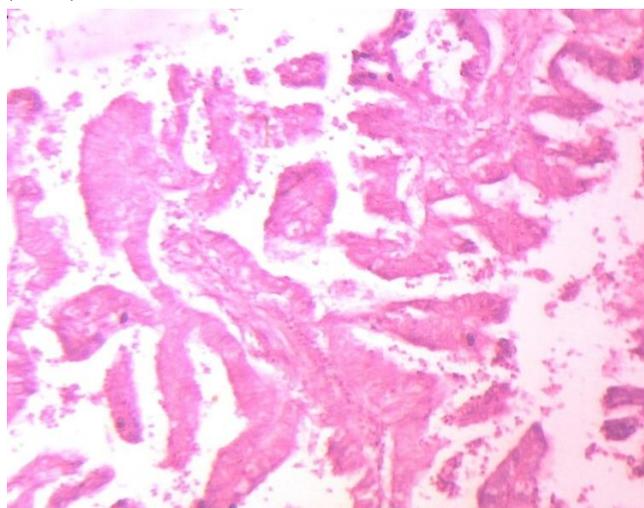


Figure 6. serous carcinoma (H&E,10X)

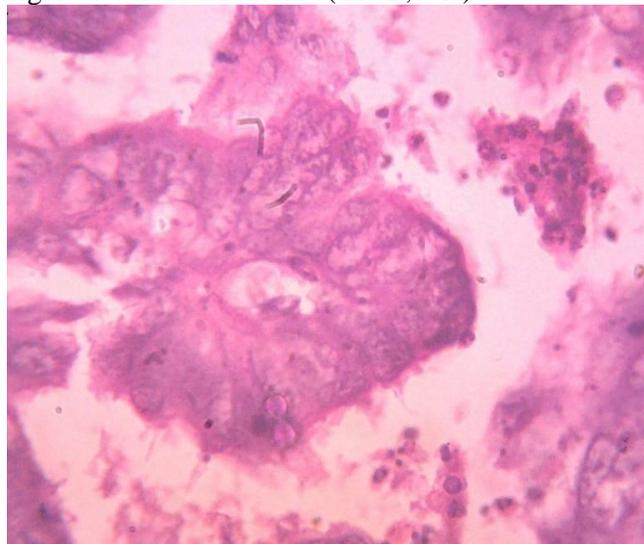


Figure 7. grade 3 nuclei, in serous carcinoma.(H&E,40X)

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