# THE MICROCYSTIC, ELONGATED AND FRAGMENTED (MELF) INVASION IN ENDOMETROID ENDOMETRIAL CARCINOMA: CLINICO-PATHOLOGICAL STUDY

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## INTRODUCTION

Globally, endometrial cancer (EC) accountsfor4.8% of all cancers diagnosed in women.it is the most common malignancy of the female reproductive tract in developed countries, and the second most common in developing countries..

Most FIGO grade 1 endometrioid endometrial carcinomas (EEC) present with early-stage disease and have an excellent prognosis. However, a minority with early-stage, low-grade disease will demonstrate a more aggressive clinical course.

A priori identification of such cases could allow offering additional treatment to women who may benefit the most.4 EEC are histologically heterogeneous and the morphologic pattern of myometrial invasion may be related to biologic potential. Specifically, myometrial invasion with an infiltrative gland pattern has been recently associated with higher stage, lymphovascular invasion and recurrence.

prognostic parameters in breast, colorectal and ovarian cancers. Endometrial carcinomas may also show a further distinctive invasive pattern, characterized by the presence of microcystic, elongated and fragmented invasive glands.

## AIM OF THE WORK

To detect microcystic, elongated and fragmented (MELF) pattern invasion in endometroid endometrial carcinoma and its association with other clinic-pathological findings.

## SUBJECTS AND METHODS

This study was a prospective, retrospective and cross-sectional study and was conducted using medical records of patients collected from gyneoncology- Alexandria main university University Hospital. The study includes all cases who are subjected to total hystrectony and lymph node dissection at gyne-oncology- Alexandria main university Hospital from 2017 to 2021. The period of the study is defined as four years; at the time from 2017 to 2021. At.gyne-oncology- Alexandria main university University Hospital.

Collecting data from.gyne-oncology Alexandria main university University Hospital.

Records of all patients presented to us during the years from 2017 till 2021 with the diagnosis of Endometroid endometrial carcinoma will be reviewed.

•Descriptive statistics were used to describe the study sample in terms of:

•Demographic data (age – weight-height).

•Laboratory investigations including tumor makers as CA-125.

•Radiological investigations including abdominopelvic ultrasonography- magnetic resonsnce imaging (MRI)- Abdominopelvic computed tomography (CT).

Tumor clinicopathological criteria.

## RESULTS

**Table 1:** Relation between MELF findings and different intensity and score of immunohistochemistry parameters.

| Intensity and score of immunohistochemistry items | MELF | | T test P value |
|---|---|---|---|
| | Yes | No | |
| **MMP2 percent** | | | |
| **Range** | 0.0-90.0 | 10.0-70.0 | 2.021 |
| **Mean±SD** | 58.9±22.7 | 49.3±26.0 | 0.032* |
| **MMP2 intensity** | | | |
| **Range** | 1.0-3.0 | 0.0-3.0 | 1.98 |
| **Mean±SD** | 2.8±0.9 | 1.81±1.0 | 0.045* |
| **MMP2 total score** | | | |
| **Range** | 1.0-1.0 | 1.0-1.0 | |
| **Mean±SD** | 1±0 | 1±0 | - |
| **CD117 percent** | | | |
| **Range** | 0.0-80.0 | 0.0-70.0 | 4.01 |
| **Mean±SD** | 46.0±31.6 | 33.1±21.3 | 0.001* |
| **CD117 intensity** | | | |
| **Range** | 0.0-3.0 | 0.0-2.0 | 1.97 |
| **Mean±SD** | 1.9±0.69 | 1.2±0.87 | 0.048* |
| **CD117 total score** | | | |
| **Range** | 0.0-2.0 | 0.0-2.0 | 3.22 |
| **Mean±SD** | 1.7±0.48 | 1.1±0.88 | 0.021* |
| **CD147 percent** | | | |
| **Range** | 0.0-90.0 | 30.0-80.0 | 0.141 |
| **Mean±SD** | 64.4±24.9 | 60.0±18.7 | 0.710 N.S. |
| **CD147 intensity** | | | |
| **Range** | 0.0-3.0 | 1.0-3.0 | 2.11 |
| **Mean±SD** | 2.6±0.72 | 1.7±0.69 | 0.023* |
| **CD147 total Score** | | | |
| **Range** | 0.0-4.0 | 2.0-4.0 | 2.01 |
| **Mean±SD** | 3.6±1.06 | 2.88±0.62 | 0.036* |

*T= student t-test* *P was significant if < 0.05* **. = significant difference*

Immunostaging results for CD117, CD147 and MMP2 were significantly correlated with MELF pattern and tumor stage, while Not significantly correlated with CA125, Lymphnode metastasis, Adhesions other malignancy, Treatment category.

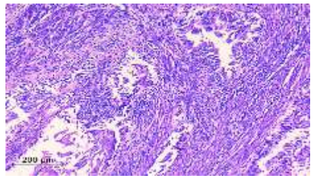

**Figure 1:** H&E stained sections of the studied cases of endometrioid carcinoma featuring MELF pattern (H&E,X100)

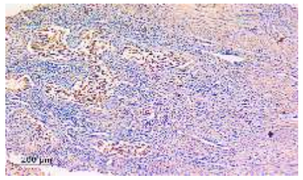

**Figure 2:** CD117 immunohistochemical positivity in MELF pattern in endometrioid carcinoma cases; strong positivity in A and B, moderate positivity in cases C and D, and weak positivity in cases E and F. (Anti CD117 antibody, x100)

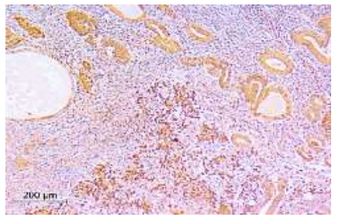

**Figure 3:** CD147immunohistochemical positivity in MELF pattern in endometrioid carcinoma cases; strong positivity in A and B, moderate positivity in cases C and D, and weak positivity in cases E and F. (Anti CD147 antibody, x100)

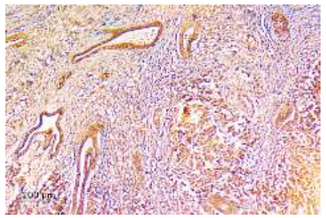

**Figure 4:** MMP2immunohistochemical positivity in MELF pattern in endometrioid carcinoma cases; strong positivity in A and B, moderate positivity in cases C and D, and weak positivity in cases E and F. (Anti MMP2 antibody, x100)

## CONCLUSION

From this study it was concluded that MMP-2, CD117 and CD147 was expressed in high percentage of endometrioid carcinoma and its expression may be associated closely with clinical stage, and MELF, indicating that MMP-2, CD117 and CD147 overexpression may serve as a predictive factor for poor prognosis of endometrioid carcinoma.