

Title: The significance of cellular atypia in ovarian endometriomas

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Introduction: Endometriosis is a disease estrogen dependent, which is present in 3-10% for sexually active female, and 2-5% for the female in menopause; it is estimated about 25-80% of female with infertility presents endometriosis.

Macroscopic the dimensions of endometriosis are variable and presence of brown-chocolate liquid is pathognomonic; microscopic we have hemosiderine, endometrial stroma and the epithelium is likely the endometrial one. The endometriotic cyst epithelium presents metaplasia and hiperplasia changes and also citological atypia or even neoplastic issues.

The main paper objectives are:

- to establish a direct relation between the existence of endometrial atypia and appearance epithelial ovarian tumors
- to improve a schedule for a rigorous follow-up for patients diagnosed with endometriosis and also for those with atypia and recurrence endometrial atypia.

The first study: is a retrospective one, which analysis the patients diagnosed and treated at Emergency County Hospital Galati, with epithelial ovarian tumors and borderline tumors for a period of 2015-2018.

Surgical interventions performed were unilateral or bilateral salpingo-oophorectomy with or without associated hysterectomy. All the cases were reviewed at microscopical exam and the numbers of slide were 4 up to 12, depending on the surgical pieces. The coloration used was classical hematoxilin-eosin to improve the examination and to identified for associated endometriosis and endometriosis with atypia.

We tried to establish any connections between endometriosis and epithelial ovarian tumors by following the Van Gorp classification:

Category A-consists of cases with areas of endometriosis present in the same ovary , with histological transition between endometriosis and ovarian tumor

Category B- contains cases with outbreaks of endometriosis without transition between endometriosis and tumor

Category C--contains cases with endometriosis present in any other location from ovarian carcinoma

Hystopathological evaluation was performed on a 50 patients with following results: 45 cases were diagnosed with malignant epithelial ovarian tumors and 5 cases being borderline tumors.

The most common type of tumor involved was the serous ovarian carcinoma: 29 cases (58%), followed by endometrioid carcinoma 8 (16%), mucinous carcinoma 5 (10%), serous borderline carcinoma 4 (8%), mucinous borderline tumor 1 (2%), non differentiated carcinoma 1 (2%), clear cells carcinoma 1 (2%), malignant Brenner tumor 1 (2%).

From the total cases diagnosed with serous ovarian carcinoma, 21 (42%) were HGSC, and 8 (16%) were LGSC. In 14% (7/50) of the cases, the ovarian carcinoma was associated with endometriosis while 86% (43/50) had no evidence of endometriosis.

In that seven cases with endometriosis two presented atypia (one case was with endometrial hyperplasia and the other with citological atypia).

Conclusions: endometrioid atypia can be a preneoplastic lesion, which is derived from the endometrial tissue and can develop the ovarian carcinoma; this fact is found in the especially literature which sustain this hypothesis.

The second study: was performed in 2014-2018 at Emergency County Hospital of Tîrgu Mureş, where we analyzed the patients diagnosed at hystopathological exams with ovarian endometriosis. This is a retrospective study.

Research also included a multiple statistically analysis datasets: age, type of surgical procedures, endometriosis localizations, dimensions of cyst, identification of atypia and the recurrence of endometriosis.

The study group included a 259 patients with age between 19-51, diagnosed with unilateral or bilateral endometriomas and dimensions up to 15 cm.

From the total, 51 presented endometrioid atypia and 39 patients (15,1% from the total endometriomas) had recurrence which required surgical second intervention. The recurrence of endometriomas present a direct connection with larger dimension of endometriosis cysts.

On the other hand, we found a relevant statistically analysis ($p=0.006$) at patients with recurrences and atypia face to those with recurrences without atypia, but with up to 7 cm dimensions of endometrioid cysts. The patients below to 40 years old, with recurrences have more atypia lesions according also with statistically analysis ($p=0.025$, $OD=4.107$).

Hysterectomy or myomectomy was used as a surgical procedure in 33 cases for indentification of associated uterine leiomyomas lesions but without atypia at histopathological exam.

Two seromucinous carcinoma and one seromucinous borderline tumor possible developed from an endometriotic cyst. Those two seromucinous carcinoma tumors developed possible on the ovarian endometriosis belong to a patients with 49 and 53 years old.

Seromucinous ovarian borderline tumor appeared on the ovarian endometriosis was developed to a patient of 37 years old which was diagnosed with bilateral ovarian endometriosis.

Conclusions: endometrial atypia can be considered a conection between typical endometriosis and epithelial ovarian neoplasia, which is also showed by a different authors in their studies. This relevance is highlighted in our study by this two cases of seromucinous tumors and one case of seromucinous borderline tumor. Also is necessary a follow-up for a long period for patients with recurrences and mostly for recurrences endometriosis with atypia for a high risk to develop neoplastic diseases.

To sustain this endometriosis with atypia evolution we need to recognize both steps, from the benign process to atypia but also the transition from atypia to malignancy, which is showed in a small number of cases.

