

DIAGNOSIS OF CLEAR CELL CARCINOMA ARISING FROM AN ENDOMETRIOSIS CYST DURING IN VITRO FERTILIZATION PROCESS: A CASE REPORT

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INTRODUCTION

The estimated prevalence of the association between endometriosis and ovarian cancer ranges between 0.3% and 0.8%. Transvaginal ultrasonography is nowadays a good-established imaging tool for the diagnosis and follow-up of pelvic endometriosis.

CASE PRESENTATION

We present a case of a 35-year-old female affected of endometriosis, with diagnosis of a clear cell ovarian tumor arising from an endometriotic cyst after ovarian stimulation for in vitro fertilization. Due to short-term changes in the ovary sonographic appearance, malignancy was suspected. The patient was followed up in our center due to endometriosis. Her past family history was insignificant. She had prior history of surgery in 2018 (intestinal resection due to deep endometriosis affecting the rectum) and multiple hormonal treatment until January 2020.

The transvaginal ultrasound (TVUS) performed during the ovarian stimulation process in January 2021 showed a cystic adenomyoma (stable compared to previous controls), both ovaries adhered to the uterus and increased in size due to the presence of multiple follicles and a left hydrosalpinx that was newly identified. Left ovary presented a follicle with an hypoechogenic level inside suggesting a hemorrhagic focus in context of the stimulation process.

After an embryo transfer attempt in May 2021 without achieving pregnancy, the case was reassessed in the June 2021 endometriosis/IVF committee, agreeing to carry out a new IVF cycle and bilateral salpingectomy prior to a new transfer.

In the preoperative TVUS performed in October 2021, some changes in the sonographic appearance of left ovary were noticed: it increased in size at the expense of various antral follicles, two typical endometriomas measuring 18x8mm and 11x9mm and a **cystic image** with hyperechoic content of 28x19x26mm, suggestive of a hemorrhagic follicle. After three weeks the cyst persisted, was **increased in size** (36x36x31mm) and presented a **solid hyperechogenic area with central vascularization**.

The patient was asymptomatic and the physical examination was normal. The CA125, CA 19.9, CEA and HE4 levels were not increased.



Image 1: TVUS 01/21. Left with follicles and hemorrhagic focus in context of stimulation.

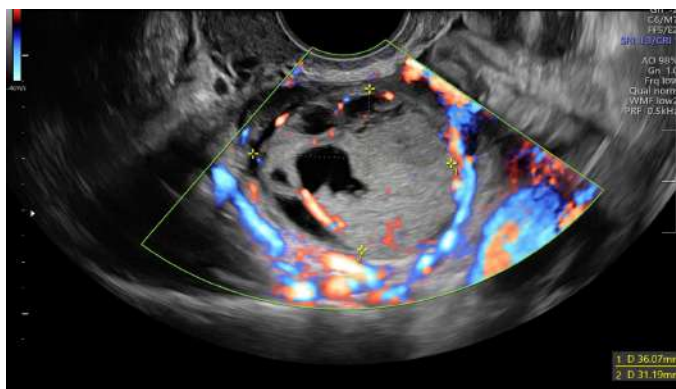


Image 2: TVUS 10/21. Left ovarian cyst with a solid hyperechogenic area and central vascularization.

CLINICAL COURSE

Diagnostic laparoscopy with left ooforectomy, bilateral salpingectomy and peritoneal biopsy was performed. Pathological examination of the left ovary demonstrated an endometriosis cyst with an area of a clear cell carcinoma, with no assessable capsular invasion due to ovarian fragmentation. No histological signs of malignancy were identified in the tubes or peritoneum. Then, staging surgery conserving the uterus was performed by laparotomy, including contralateral adnexectomy, pelvic and para-aortic lymphadenectomy, omentectomy, biopsy taking and peritoneal washing; all histological results were negative.

CONCLUSION

Endometriosis can undergo malignant changes. Transvaginal ultrasonography is a good-established imaging tool for the diagnosis and follow-up of pelvic endometriosis. Short-term changes in the ovary sonographic appearance may be considered for malignancy suspicion, particularly solid vascularized new components.