

# MANAGEMENT OF OVARIAN ENDOMETRIOSIS AND RISK OF MALIGNANCY: WHICH SURGICAL TREATMENT IS INDICATED? EVALUATION OF ULTRASOUND FEATURES, CLINICAL DATA AND TUMOR MARKERS.

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## INTRODUCTION:

Endometriosis is a common gynaecological disease with an estimated prevalence of 5–15% in women of reproductive age. Pathophysiological features such as proinflammatory environment and the imbalance between reactive oxygen species and local antioxidants contribute to the development of endometriosis-associated ovarian cancer (EAOC). Endometrioid and clear cell represent the most common histological subtypes. It has been estimated that 0.5-1% of endometriomas are complicated by neoplasia.

## OBJECTIVE:

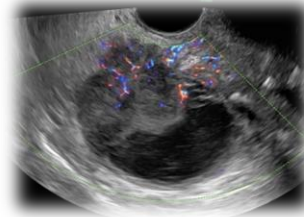
To analyse significant association between ultrasound features, clinical data and tumor markers and the surgical planning in a large series of endometriomas.

## CONCLUSION:

In our experience, age, size of ovarian cysts and ultrasound features are the main factors for the decision-making in the surgical management of endometriomas, considering the risk of associated cancer. Adnexectomy was correctly selected in most of the cases suspected for malignancy.

## MATERIALS AND METHODS:

In this retrospective observational study we reviewed clinical records of all patients with ultrasound diagnosis of ovarian cyst classified as endometriomas, both benign and with a risk of malignancy, surgically treated at the Endometriosis Unit of La Paz University Hospital from January 2019 until July 2021. Eligible women were divided into two groups, according to the final histology: benign endometriomas (group 1) and EAOC (group 2). Demographic, clinical and surgical data were collected from patients reports. IOTA criteria were performed for the ultrasound examination of all the masses. Location, size, presence and number of papillary projections, irregularities of the surface and Doppler evaluation were assessed during the preoperative examination. We performed statistical analysis in order to investigate relationships between preoperative test results, surgical procedure performed (cystectomy or adnexectomy) and definitive histological diagnosis.



## RESULTS:

Among 76 women considered eligible for the study, 59 (77,6%) lesions were benign endometriomas and 17 (22,4%) were EAOC; of those, 5 (6,6%) were endometrioid carcinoma and 12 (15,8%) clear cell carcinoma at histological examination. The mean age of patients was 42,4 years old ( $\pm 10,72$ ). We performed 36 (51,4%) cystectomies and 34 (48,6%) adnexectomies. In particular, 19 (35,2%) adnexectomies were carried out in group 1 and 15 (93,8%) in group 2 whereas 35 (64,8%) cystectomies were performed in group 1 and 1 (6,3%) in group 2. Fisher's exact test showed association between adnexectomy and EAOC group ( $p < 0,001$ ). We showed statistically significant association between ultrasound features suspicious for malignancy and group 2 (Fisher's  $p < 0,001$ ). Conducting a logistic regression analysis we found significant association between age of the patients and group 2 ( $p < 0,001$ ; Nagelkerke R Square 36,1%), as well as between size of the cyst and group 2 ( $p < 0,001$ ; Nagelkerke R Square 15,3%). No statistically significant association was found between body mass index (BMI) and CA125 and group 2. We established a threshold of 40 years old in our sample by performing a ROC curve (AUC 0,74;  $p < 0,001$ ) and we found a statistically significant association between age  $> 40$  years old and group 2 (Fisher's exact test  $p < 0,02$ ).