

36. The analysis of the accuracy of selected ovarian tumor predictive models according to the degree of uncertainty in subjective assessment.

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Introduction: The idea behind the development of predictive models for differential diagnosis of ovarian tumors is to facilitate the diagnosis by inexperienced sonographer. In this context, the physician who is less experienced in gynecologic ultrasound, may differentiate malignant from benign ovarian tumors with the use of predictive model. Therefore, the experience determines the need for predictive model application. In our study we wanted to assess how diagnostic tests behave depending on the degree of uncertainty judged in the subjective assessment.

Material and methods: The analyzed group consisted of 177 (59%) patients with benign and 121 (41%) patients with malignant ovarian tumors treated in the Division of Gynecologic Surgery, Poznan University of Medical Sciences. Prior to the surgery, ultrasonography was performed by an experienced sonographer and CA125 levels were assessed. In subjective assessment tumors were divided for six groups: certainly benign (CB), probably benign (PB), uncertain but benign (UB), uncertain but malignant (UM), probably malignant (PM) and certainly malignant (CM). We have analyzed the Area under the ROC Curve (AUC) of risk of malignancy index (RMI), International Ovarian Tumor Analysis (IOTA) ADNEX model, IOTA logistic regression model 2 (LR2) and CA125 in the group of tumors as follows: CB+CM (group 1) vs. PB+PM (group 2) vs. UB+UM (group 3).

Results: The AUC for RMI, LR2, ADNEX and CA125 in the group 1 were as follows: 0.981, 0.997, 1.00 and 0.928. The respective AUC in the group 2 were: 0.898, 0.725, 0.893 and 0.833, while in the group 3 were as follows: 0.781, 0.595, 0.710 and 0.796.

Conclusion: We have observed progressive decrease of diagnostic performance of ovarian tumor prognostic models and CA125 according to the increase of sonographer uncertainty. This implicates the need of prospective trials evaluating the clinical utility of predictive models in daily practice.