**BRCA1/2, CHEK2, PALB2 and RAD51C mutations in ovarian cancer patients from Polish population**

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In Poland ovarian cancer represents the second cause of cancer among gynecological malignancies and the fourth cause of cancer deaths among women. Literature data shows that more than one-fifth of ovarian cancer cases have been related to hereditary factors. It has been recognized that the most frequently germline mutation in hereditary ovarian cancer are BRCA1/2 mutations. Nevertheless, several other genes, as RAD51C, have been suggested to be associated with hereditary ovarian cancer. Mutations in other genes which are known to be associated with high breast cancer risk in Polish population, as PALB2 and CHEK2, have not been tested in ovarian cancer patients up to now.

The aim of the study is to estimate the frequency of recurrent Polish germline mutations in BRCA1/2, RAD51C, PALB2 and CHEK2 genes among unselected and familial ovarian cancer patients. Additionally, an association of RAD51C, PALB2 and CHEK2 mutations with ovarian cancer risk was assessed.

Molecular analyses included genotyping of recurrent mutations in BRCA1/2 (13), RAD51C (3), PALB2 (2) and CHEK2 (3) in a group of ~2000 unselected OC, ~250 HOC and 2000 healthy controls.

The frequency of BRCA1/2 was 11.02%. We found significant association of RAD51C and PALB2 mutations, but not CHEK2 mutations, with ovarian cancer risk.

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