

What is the best age for risk-reducing mastectomy among PALB2 pathogenic variant carriers?

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Introduction: PALB2 pathogenic-variants carriers face a high risk of breast cancer. Therefore risk-reducing mastectomy (RRM) is strongly recommended. Nevertheless, it is not commonly accepted among young women. Therefore, we aimed to answer the question, until what age can this procedure be safely postponed.

Methods: Registry with contribution of 20 Cancer Genetics Outpatient Clinics from 15 regions of Poland were searched for PALB2 pathogenic and likely-pathogenic variant carriers affected with any type of breast cancer, including ductal carcinoma in situ.

To reduce survivorship bias, we then selected a subgroup of patients, who first contacted one of the facilities within a year since cancer diagnosis (early-tested). In both groups we analyzed pedigree data to compare the age of onset of the disease in the proband and her mother.

Results: In total, the registry contained 521 patients. Only 5% of them had developed first breast cancer before the age of 33 and 10% - before the age of 36. In the early-tested subgroup, we identified 357 patients and obtained similar results (34 and 36, respectively).

Among 521 patients, 79 reported breast cancer in their mother, whereas in the early-tested subgroup – 47. In both groups we observed anticipation in about 75% of families. In many cases it exceeded 20 years, indicating that RRM should not be delayed in patients from late-onset breast cancer families.

Conclusions: Our study points out the need RRM among PALB2 PV carriers as early as at the age of 30-35 years.