Long-term survival of invasive ovarian cancer associated with BRCA1-4153delA mutation in Lithuanian population

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The aim of this study was to estimate 10-year survival for women with invasive ovarian cancer associated with BRCA1-4153delA mutation in a high incidence (Lithuanian) population. **Materials and methods:** The study focused on 71 ovarian cancer patients treated at Vilnius University Oncology Institute. Sixty patients (Group I) were consecutive, newly diagnosed cases, unselected for age or family history. Eleven patients (Group II) were selected by strong hereditary criteria with an aggregation of at least three breast/ovarian cancers had Hereditary Breast Ovarian Cancer Syndrome (HBOCS). The founder mutations of BRCA1 carrier status and BRCA2 of these patients were identified. The treatment of all patients was similar as per national protocols for treatment of ovarian cancer cases independent of mutation status. Only a patients alive 10 years after diagnosis were included in the study. Kaplan–Meier survival curves were constructed for the groups: Group I – unselected women with ovarian cancer and Group II – women with HBOCS by heredity and BRCA1/2 mutation status. The Log-Rank test was used to evaluate the statistical significance of differences. A $p < 0.05$ was indicative of a significant statistical difference. Cox-proportional Hazards models were used to estimate Hazard Ratios (HRs) associated with mutation status. **Results:** Overall survival 10-years after diagnosis showed no difference (p=0.4351) with regards to the presence or absence of a BRCA1/2 mutation for patients with invasive ovarian cancer. Ten year survival of those associated with BRCA1-4153delA mutation was similar (p=0.8918) to hereditary cases. Multivariable survival analysis for histologic subtype (serous and other) was also assosiated with a similar prognosis (p=0.579) at 10 years for hereditary and non-hereditary cases [HR=1.34, 95% CI= 0.47 to 3.80]. **Conclusion:**The results of our study show that the long-term (10 year) survival of patients with invasive ovarian cancer with BRCA 1/2 mutation was associated with a similar (p=0.4351) prognosis to those who were not curriers. The 10-year survival of the HBOCS case patients was similar (p=0.8918) to those associated with BRCA1-4153delA mutation when identical management and treatment were received.