

## THE CLINICAL IMPLICATION OF GERMLINE BRCA MUTATIONS IN PANCREATIC DUCTAL ADENOCARCINOMA BY USING BREAST CANCER PATIENT COHORT

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**Background** : BRCA 1/2 have been reported to increase the risk of pancreatic ductal adenocarcinoma (PDAC). BRCA gene can be a diagnostic tool as well as prognostic factor for PDAC. However, clinical implication of BRCA mutation may differ among ethnicities, which make necessity for Korean-specific research.

**Methods** : A cohort of 1,155 breast cancer patients who underwent breast surgery and BRCA examination between 2008 and 2017 was analyzed to determine the incidence, clinical characteristics, and survival outcomes of pancreatic cancer.

**Results** : Among the 1,155 patients, 178 had BRCA1/2 mutations. Of 178 patients, the mean age at first cancer diagnosis among BRCA-mutated breast cancer was 42.8 years. Over an average follow-up period of 107 months, 11.8% were diagnosed with  $\geq 2$  cancers, with ovarian cancer being the most common, and only 1 patient diagnosed PDAC simultaneously (0.6%, n=1). The 30-years-old female underwent modified radical mastectomy for stage IIA breast cancer and after 103 month follow-up, pancreatic body cancer was found in computed tomography scan. The patient underwent laparoscopic radical antegrade modular pancreatosplenectomy and the TNM stage for PDAC was IA. No significant differences were observed in TNM stage, BRCA mutation subtype, age at first cancer diagnosis, age at breast cancer diagnosis, cancer family history, or overall survival between patients diagnosed with breast cancer only and those with multiple cancers.

**Conclusions** : During an average follow-up period of 107 months, out of 178 BRCA-mutated patients, 1 case of PDAC was observed. Further research is needed to warrant the necessity of PDAC screening strategy in BRCA-mutated breast cancer patients.