

Outcome of intensive breast cancer surveillance for initially disease-free BRCA mutation carriers

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Background

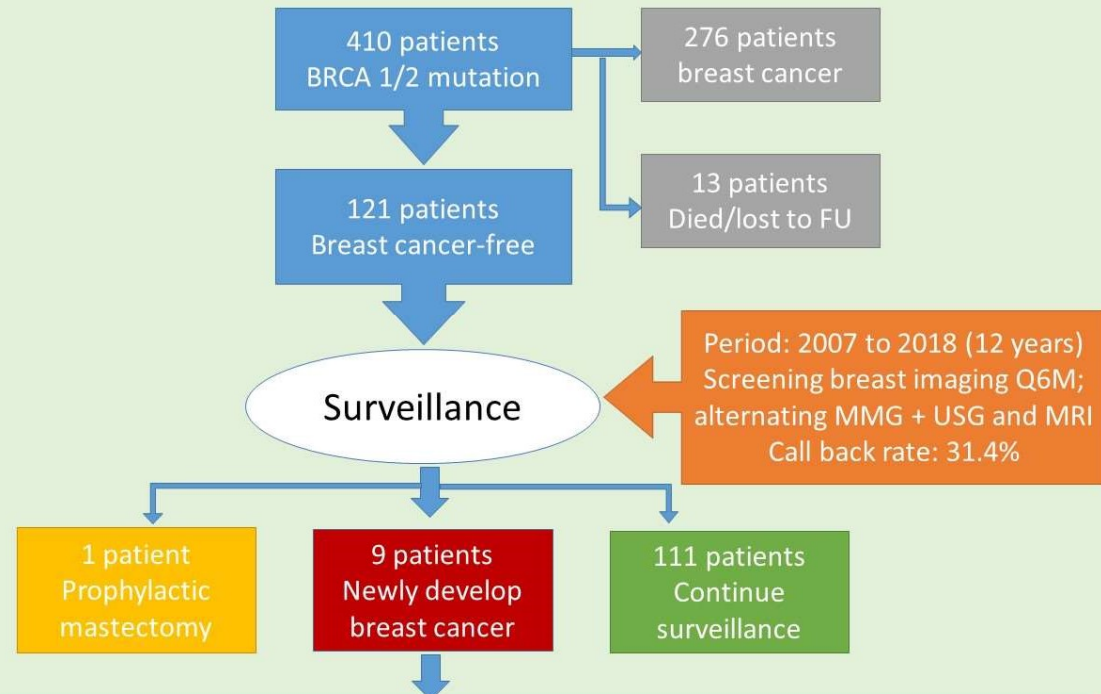
- Pathogenic mutations of the BRCA tumor suppressor genes result in a greater lifetime risk for breast cancer
- Intensive breast cancer surveillance is recommended
- This study aimed to evaluate the incidence of breast cancer amongst disease-free BRCA mutation carriers under surveillance and the characteristics of those who subsequently developed breast cancer

Methods

- Prospectively maintained database of Hong Kong Hereditary Breast Cancer Family Registry from 2007 to 2018
- Patients with BRCA1 or 2 mutations without history of breast cancer and prophylactic mastectomy were reviewed

Conclusions

- Breast cancer incidence is significantly higher in BRCA mutation
- While prophylactic mastectomy was not popular among those who were cancer-free in our population, management relied mainly on intensive surveillance
- Approximately one-third of the patients would have suspicious findings during surveillance which required further investigation
- MRI could be more sensitive in detecting earlier stage cancer than MMG and USG
- Cost-effective analysis of intensive breast cancer surveillance in BRCA mutation carriers is warranted



- Median interval from surveillance to cancer-detection: 35 months
- 4 patients detected by MMG/USG; 5 patients detected by MRI
- Median age of diagnosis: 43 years old
- 77.8% were diagnosed at stage 0 or 1
- 44.4% underwent contralateral prophylactic mastectomy with cancer operation
- **Average annual cancer occurrence rate 2.8% (28 per 1000 BRCA mutation carriers); compared to 0.106% in general Hong Kong female population (Cancer Registry 09 -16)**