The Princess Margaret Cancer Center Target Ovarian Cancer Program

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Target Ovarian Cancer Program (TOCP): Systematic identification of high-risk women for ovarian cancer prevention

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Ovarian cancer is the 5th leading cause of cancer-related death in Canadian women and is the most lethal cancer of the female reproductive tract\(^1\). 1 in 5 women with the most common form of ovarian cancer, high-grade serous carcinoma (HGSC), have an inherited mutation in the \textit{BRCA1} or \textit{BRCA2} genes\(^2-3\). Due to the strong link between \textit{BRCA1/2} and HGSC, the Ontario Ministry of Health and Long-Term Care released recommendations in 2001 that made all women with serous epithelial ovarian cancer eligible for \textit{BRCA1/2} testing. In the following decade only \(~20\%\) of eligible patients were referred\(^4\), resulting in up to 2000 women in Ontario with inherited \textit{BRCA1/2} mutations who have not been identified and are unaware of their high risk for deadly ovarian cancer. The purpose of this initiative is to identify these women who carry \textit{BRCA1/2} mutations and other risk genes through genetic testing and provide the opportunity to prevent ovarian cancer by risk-reducing surgery\(^5-7\).

Pilot Initiative: Fill the Gap
I. Education campaign
II. Panel-based germline testing of female first degree relatives → detect mutations in \textit{BRCA1/2} (recommend risk-reducing surgery) + new risk genes
III. Grow high-risk cohort/research infrastructure
IV. Build case for shift in OMHLTC criteria/panel-based testing

Impact: Research in High-Risk Population
I. Psychosocial impact and barriers to genetic testing & risk-reducing surgery
II. Genotype-phenotype studies in new risk genes
III. Optimal targeted prevention strategies based on mutation status
IV. Long-term follow-up

Impact: Shift in Clinical Paradigm
I. Systematic genetic testing & targeted prevention
II. New models of genetic counselling
III. Work with Cancer Care Ontario & Ontario Ministry of Health (OMHLTC) to impact policy/knowledge translation

\textit{Detect} inherited cancer predisposing mutations, \textit{Diagnose} increased cancer risk, \textit{Target} mutation carriers for risk-reducing surgery & \textit{Support} families throughout the process

TOCP website - www.preventovariancancer.ca