

Sandra Ryan provides an overview of a recent meeting in the Mater Private Hospital, Dublin, on advances in managing ovarian cancer

Experts discuss advances in ovarian cancer

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MEDICAL ONCOLOGIST and cancer genetics consultant at the Mater Private Cancer Centre, Dr David Gallagher, recently hosted a scientific meeting entitled 'Advances in ovarian cancer', with guest speakers from the world-renowned Memorial Sloan-Kettering Cancer Centre in New York, US.

Dr Gallagher, who dual trained in medical oncology and genetics at Sloan-Kettering, recently set up the Mater Private Cancer Centre's new Cancer Genetics Service, which is the first of its kind in Ireland. The meeting was an opportunity to both highlight recent advances in the management of ovarian cancer and discuss the importance of genetic screening in certain types of cancer.

"Ovarian cancer can occasionally be a hereditary malignancy. I believe that improved access to cancer genetics services and integration of these services into designated cancer centres can meaningfully contribute to cancer prevention in Ireland," Dr Gallagher told the meeting.

"Timely intervention will help individuals with a genetic risk of cancer to clarify their risk status and ultimately reduce morbidity and mortality, and prolong life. Increased awareness of hereditary predisposition increases demand for genetic counselling and genetic testing, and improved access to genetic testing is imperative to allow affected families avail of timely intervention."

At the meeting, guest speaker from Sloan-Kettering, Dr Noah Kauff, who is a consultant gynaecologist and clinical geneticist, spoke about identifying women who should be considered for genetic risk assessment of hereditary breast and ovarian cancer.

He explained that indicators of a possible hereditary cancer syndrome include: Early age at diagnosis (breast cancer in a woman <50); cancer in two or more close relatives in the same side of the family; a combination of cancers indicative of a specific syndrome; and bilateral or synchronous or metachronous cancers within the same organ.

"There are a number of patients with greater than an approximately 20-25 per cent chance of having an inherited predisposition to breast and ovarian cancer, and for whom genetic risk assessment is recommended," said Dr Kauff. "These include women with a personal history of both breast and ovarian cancer, and women with ovarian cancer or with a close relative with ovarian or premenopausal breast cancer."

Dr Kauff also quoted a study showing that 24 of 51 patients with at least one first or second degree relative diagnosed with breast cancer before aged 50, or ovarian cancer at any age, had a detectable



Dr David Gallagher

BRCA1 or BRCA2 mutation.

He also explained that PARP (poly ADP ribose polymerase) inhibitors, a new class of drugs that block DNA repair in cancer cells, may provide hope in BRCA-mutated cancers.

"The thrust of modern anticancer drug development is in finding agents with few adverse effects by leveraging advances in the understanding of cancer biology," said Dr Kauff. "It appears that PARP-1 inhibitors are case studies in doing just that. In short, the inhibitors, which reflect a strategy of drug development known as synthetic lethality, show anti-tumour activity without the toxicity associated with conventional chemotherapy."

Importantly, PARP inhibition, which kills cancer cells, spares identical normal cells that lack cancer-related alteration, such as those of mutated BRCA1 and BRCA2.

Dr Robert Soslow, gynaecologic pathologist at Memorial Sloan-Kettering, discussed the fallopian tube origin of high-grade serous carcinoma of the ovary, and recommendations for sectioning, examining and reporting abnormalities in fallopian tubes removed as part of risk-reducing surgery for BRCA carriers. Dr Soslow emphasised the idea that the various types of ovarian cancers represent "distinct disease entities", rather than being one disease, and that revised and simplified criteria for diagnosing these diseases have important clinical implications.

Speaking to *IMN* after the meeting,

Dr Gallagher explained how the Mater Private Cancer Genetics Service operates, and why it is so important.

"There are a number of well-defined clinical syndromes that can give rise to a constellation of different cancers that define that syndrome. You can test for an abnormality in specific genes that confirms the presence of that syndrome caused by this abnormal gene, oftentimes a mutated tumour-suppressor gene, resulting in the development of cancer," said Dr Gallagher. "The goal of a cancer genetics service is to either prevent cancer developing in people who are predisposed or detect it very early when it does develop at a curable stage. The way we detect early is by increasing the screening that a person is getting, and prevention is either by surgery or in some instances, through medication."

Women with mutated BRCA 1 and 2 genes have a significant risk of developing ovarian cancer. Dr Gallagher explained that while in the general population the risk of developing ovarian cancer is about one-in-70, in women with BRCA mutations it can be as high as one-in-two.

"What we typically look for are red flags such as the presence of a constellation of different tumours that characterise the syndrome, the development of cancer at earlier ages than we would typically expect, or more than one cancer in the same organ; for example, someone who develops bilateral breast cancer – someone with a breast cancer diagnosis who later develops another cancer in the other breast – that person would raise suspicions for having a genetic predisposition. Men can also have this gene, which puts them at risk for breast and prostate cancer."

If GPs or any other clinicians are concerned about a hereditary syndrome they can contact the clinic directly, he said.

"If testing for a particular gene is possible we discuss it with the patient to determine whether to go ahead and test. It is important to emphasise that this is a standard of care worldwide, not an extra or add-on service. It has been shown definitively to save lives and reduce mortality from, in particular, breast and ovarian cancer, but also colorectal cancer. It's not a very expensive way to do that, in the current era of expensive targeted therapies." ■

References on request

Published in association with the Mater Private Hospital, Dublin

Mater Private Cancer Genetics Service: Dr David Gallagher, Medical Oncologist and Geneticist; and Mr Michael Farrell, Genetics Nurse Counsellor