Source: *The Straits Times,* pB4
Date: 19 October 2016

Better ways to tackle womb and ovarian cancers

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Early symptoms of ovarian cancer like bloating and abdominal pain are often mistaken for less serious conditions like gastrointestinal disorders, leading to late detection of the disease.

Its sister, uterine (womb) cancer – whose site of occurrence is close to the ovaries and which can look similar under the microscope – is an easier catch with abnormal vaginal bleeding as an obvious symptom.

But whichever the case, doctors no longer have to rely solely on physical symptoms as research has given birth to better ways to prevent, detect and treat these cancers.

For example, women can now test for BRCA1 and BRCA2 gene mutations, which put them at a higher risk of developing breast and ovarian cancers. The test is recommended for women with a family history of such cancers.

According to the United States National Cancer Institute, women with the BRCA1 mutation have a 39 per cent risk of getting ovarian cancer by age 70, while those who inherit the BRCA2 mutation have an 11 to 17 per cent chance of developing the disease. In comparison, 1.3 per cent of women in the general population get the disease.

A small ongoing study at National University Cancer Institute, Singapore (NCIS) has found that about 30 per cent of ovarian cancer patients in Singapore have this mutation, higher than the international figure of 15 to 20 per cent.

Those who test positive can have their ovaries removed, which studies have shown cuts their risk of getting ovarian cancer by up to 95 per cent and reduces the risk of breast cancer by up to half if the ovaries are removed before menopause.

Pregnancy, breastfeeding and the use of birth control pills have also been shown to lower the risk of developing ovarian cancer.

Women with a family history of Lynch syndrome, a hereditary disorder caused by a mutation in a mismatched repair gene, can also test for it as it puts them at a higher risk of developing digestive tract and gynaecologic tract cancers like colorectal and uterine cancers.

Those found to have the syndrome will be recommended to have more frequent check-ups so that the cancer can be detected early.

Robots have also enabled surgeons to perform hysterectomy, the removal of the womb and usually done as open surgery with large incisions in the abdomen, in a minimally invasive manner. Patients who undergo such robotic surgery can be discharged on the day of the operation instead of having to stay in hospital for two weeks.

Researchers have also come up with better ways to deliver cancer drugs into patients' bodies.

Associate Professor Gigi Chiu of the National University of Singapore, for example, has developed a nano drug delivery system that kills ovarian cancer cells more efficiently and with a smaller drug dose.

The delivery system is a solution – comprising a lipid and a special type of polymer – that delivers breast and ovarian cancer chemotherapy drug Paclitaxel through either a vein or the abdominal cavity.

This system also makes the cancer cells more sensitive to the drug, allowing its dosage to be reduced.

"If we could reduce the dose, we could also reduce the side effects... not just vomiting, hair loss, but also disruptions to the immune system," said Prof Chiu.

The system has been tested in animal models and Prof Chiu is studying how it can be used to deliver a combination of drugs.

NCIS is also studying new ovarian cancer treatments.

Dr David Tan, a consultant at its department of haematology-oncology, said NCIS is, for instance, studying the benefits of combining low-dose radiotherapy with weekly chemotherapy. "Some data suggest low-dose radiotherapy might enhance chemotherapy," he said.

Another study is on the use of immunotherapy to treat ovarian cancer. Research has shown that cancer cells thrive as they can hide from the immune system. New immunotherapy drugs can remove that shield and stimulate the patient's body to attack the cancer cells.

"The question is how to enhance that stimulus and make all ovarian cancer respond to such immune-directed attacks," said Dr Tan.

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