



Dr David Tan, lead investigator of the Integrated Molecular Analysis of Cancer Programme, with Madam Tan. Being matched with a clinical trial has helped Madam Tan, who had undergone six operations to remove various organs as her ovarian cancer spread. ST PHOTO: SYAMIL SAPARI

# Precision medicine gives cancer patients hope

## Programme helps match patients to early-phase clinical trials of new drugs

**Felicia Choo**

For cancer patients who have had relapses despite multiple operations, the latest precision medicine may offer them hope.

A programme by the National University Cancer Institute Singapore (NCIS) is helping to match cancer patients with certain ge-

netic profiles to early-phase clinical trials of new drugs.

More than 200 patients comprising Singapore residents and foreigners have agreed to undergo genetic testing, under the expanded Integrated Molecular Analysis of Cancer Programme, according to Dr David Tan, the lead investigator.

The NCIS has been working with molecular insights company Foundation Medicine, a subsidiary of Roche, since May last year to screen patients' tumours for abnormalities in 315 genes to match them to suitable trials.

The programme also provides in-

formation that could help to predict patients' response to immunotherapy, and to drugs that target DNA repair defects in certain cancers.

Dr Tan, a consultant at NCIS' Department of Haematology-Oncology, said the programme gives patients access to drugs which are not yet on the market, and provides them with targeted treatment.

"There are many ways of controlling cancer," he added. "The problem is, you can't give one patient too many drugs at one time because there's too much toxicity."

The treatment is free for pa-

tients who participate in the trials, and the turnaround time for tests takes two to four weeks.

The programme follows a pilot study, which took place from April 2014 to September 2016 involving 396 patients and showed encouraging results. Out of this number, 300 patients had a treatable mutation in their tumour, and 23 of them were matched to clinical trials.

Three of these 23 patients saw their tumours shrink by more than a third, while another six patients' cancers stabilised for more than two months.

The rest of the patients were able to choose non-trial therapies and other standard options.

Dr Tan puts the low proportion of matches down to two factors – what doctors can identify in the tumour and what clinical trials are available. For these reasons, currently only around 8 per cent of patients stand a chance of being matched to clinical trials.

However, for those who have been successfully matched, the trials are a lifeline.

Madam Yong, 62, who declined to reveal her first name, started the trial in December last year after her endometrial cancer spread to her lungs, despite having her womb removed.

"There's improvement and everything's stable," said the housewife, whose tumours have shrunk. "At least there's some hope, otherwise, there's no other option for me."

A 65-year-old patient, who wanted to be known only as Madam Tan, was diagnosed with ovarian cancer in 2002. She had almost given up hope after having six operations to remove various organs and seven rounds of chemotherapy as the cancer continued spreading.

But since starting the trial in January, she is relieved that she does not have to go under the knife again as long as the treatment continues to work.

"It's much more bearable than chemotherapy, but of course there are still side effects like extreme fatigue and nausea," said Madam Tan, who gave up her job in the education industry around 10 years ago after treatment took its toll.

"If the genetic profiling and the trial works, it's just amazing."

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