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International study reveals the future landscape of Breast Cancer treatment

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New Generation Treatment Mimics a "Biological Guided Missile" to Treat Aggressive HER2+ metastatic breast cancer with limited treatment options

HER2+ metastatic breast cancer (HER2+ mBC) is an aggressive type of breast cancer with poor prognosis. Whilst various target therapies have been introduced in the past decade for treating HER2 mBC, there remains a treatment gap, especially for later line setting, which would prolong patients' progression free survival (PFS).

A large scale international data study (including Singapore) which has been released at the renowned European Society for Medical Oncology (ESMO) Conference this year, found that an antibody-drug conjugate (ADC), an emerging novel class of anti-cancer treatment agent that combines with the selectivity of targeted treatment and the cytotoxic potency of chemotherapy drugs, has outstanding efficacy on patients with late-stage HER2+ mBC.

The ADC is described as mimicking a "biological guided missile" to kill cancer cells. The findings also showed that the new generation ADC, which is currently applied only in 3rd line treatment, may also be effective to be used in 2nd line treatment. This is a game-changer, changing the future landscape of breast cancer treatment.

Prof. Winnie Yeo, a specialist in medical oncology at the Department of Clinical Oncology, explained that the first two lines of treatment have so far yielded good outcomes. The 1st line treatment with targeted therapy PFS is up to 18.7 months and improved PFS and overall survival (OS) with 2nd line treatment with a 1st generation ADC. However, the PFS still does not exceed 1 year with 2nd line, and there are no standard international treatment protocols for 3rd line treatment and beyond.

Prof. Yeo commented: "The new ADC is able to guide the potent cytotoxic payload more precisely to attack tumors and killing cancer cells. It also creates a "bystander effect" which allows the delivery of its cytotoxic payload to neighboring cancer cells too. Thus, ensuring that those with weak HER2 expression will also be detected and killed. The action is like a biological guided missile which is able to destroy hidden enemies as well as those in plain sight".

The new ADC also carries a larger and more potent load of chemotherapy. All these combined features give better treatment efficacy and therefore is a boon for the treatment of patients with HER2+ mBC.