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Singapore enables doctors to optimise personalised chemotherapy dose

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CURATE.AI uses a small data approach to calibrate each patient's drug dosage using his/her own clinical data

A team of researchers from National University of Singapore (NUS), in collaboration with clinicians from the National University Cancer Institute, Singapore (NCIS) which is part of the National University Health System (NUHS), has reported promising results in using CURATE.AI, an artificial intelligence (AI) tool that identifies and better allows clinicians to make optimal and personalised doses of chemotherapy for patients.

Based on a pilot clinical trial – called PRECISE.CURATE - involving 10 patients in Singapore who were diagnosed with advanced solid tumours and predominantly metastatic colorectal cancers, clinicians accepted close to 97% of doses recommended by CURATE.AI, with some patients receiving optimal doses that were approximately 20% lower on average.

Developed by Professor Dean Ho and his team, CURATE.AI is an optimisation platform that harnesses a patient's clinical data, which includes drug type, drug dose and cancer biomarkers, to generate an individualised digital profile which is used to customise the optimal dose during the course of chemotherapy treatment.

Following this initial progress towards incorporating CURATE.AI into clinical workflows of dose selection in the solid tumour treatment, the NUS team will advance towards a larger, randomised trial to further validate the performance of the optimisation platform.

The research team will also be conducting clinical trials involving patients diagnosed with other types of cancers, such as multiple myeloma, and disorders such as hypertension, among others. Of note, the team is also launching an imminent trial to optimise personalised immunotherapy dosing for solid cancers.