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NCCS , Lucence predict immunotherapy response for kidney cancer

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Study was conducted on 36 kidney cancer patients using the CLEARScoreÃ¢â??Â¢ test that identifies eight genes linked to immunotherapy



Immunotherapy drugs such as PD-L1 checkpoint inhibitors represent the front-line treatment for kidney cancer. But immunotherapy is expensive, benefits only a subset of patients and is futile in the majority of patients. Now, researchers from National Cancer Centre Singapore and Lucence Diagnostics have conducted a study using Lucence's molecular test, CLEARScore™, to predict immunotherapy response for kidney cancer. The findings from this study will be presented at the 2019 American Society of Clinical Oncology Genitourinary Cancers Symposium (ASCO GU) held in San Francisco this week.

CLEARScore™ is a molecular test that predicts treatment response for kidney cancer. It is an algorithm involving eight genes in the tumor, which classifies kidney cancer by molecular type. This test has been used to successfully predict treatment response of kidney cancer patients to tyrosine kinase inhibitors, a type of targeted therapy. The results were published in 2015 in European Urology, the world's top urology journal.

In this new study, CLEARScore™ was investigated in correlation with anti-PD-L1 inhibitors and immune cell markers in 36 kidney cancer patients. The results showed that the gene expression score of the eight genes correlated with immune cell infiltration and clinical response to anti-PD-L1 inhibitors in a subset of patients. This indicates that multigene score should be investigated as a biomarker to select patients who are likely to respond to immunotherapy. The study was conducted by National Cancer Centre Singapore and Lucence Diagnostics, in collaboration with the Diagnostics Development (DxD) Hub led by A*ccelerate (A*STAR), Singapore General Hospital and OncoCare Cancer Centre.

"Immunotherapy is a major breakthrough in our battle against kidney cancer. It is however expensive and may have side effects. Having a test that can distinguish whether a kidney cancer patient will or will not benefit from anti-PD-L1 immunotherapy would be of high clinical value. Such tests have not been previously reported, and CLEARScore™ is a promising and exciting advance towards more precise selection of cancer patients for treatment,'' said Dr Ravindran Kanesvaran, Senior Consultant, Department of Medical Oncology, National Cancer Centre Singapore, who designed and led the study.

"This is the first study to report the correlation of a multigene score with immune phenotypes in kidney cancer. We are excited about the potential of using our CLEARScore™ test to help kidney cancer patients avoid futile treatments and prolong their lives. To further establish the clinical utility of this test for immunotherapy, we will be conducting a multinational study on a

larger cohort of kidney cancer patients,'' said Dr Yukti Choudhury, Chief Technology Officer, Lucence Diagnostics, who will be presenting the study at ASCO GU.

Kidney cancer is among the ten most common cancers in men and women across the world. In 2018, there were over 400,000 new cases of kidney cancer globally .