

New approaches to treat diverse bile duct cancers prevalent in Southeast Asia

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A new study has effectively targeted three groups in Cholangiocarcinoma with drug inhibitors

An international study led by the National Cancer Centre Singapore (NCCS) and Duke-NUS Medical School has effectively targeted three distinct groups in cholangiocarcinoma (CCA), or cancer of the bile duct, with drug inhibitors.

These findings deepen our understanding of the mechanisms that cause CCA to develop and propose new therapeutic targets for this lethal disease. This research is of particular relevance to the Southeast Asian region, where bile duct cancer is endemic.

CCA is widespread in the Northeast of Thailand, and neighbouring Laos and Cambodia. Alarming, CCA incidence is also on the rise in Taiwan, Korea and China, where bile duct inflammation, hepatitis, liver stones or exposure to the herbal carcinogen aristolochic acid are among the potential causes of the disease.

Currently, chemotherapy is the first-line treatment for CCA, and targeted therapy and immunotherapy are second line treatments. Unfortunately, all are largely ineffective, and most patients have a poor prognosis with five-year survival rates of only five per cent.

Noting the urgent clinical need for new and effective therapies for CCA, a team of scientists who are leaders in the field from NCCS, Duke-NUS, A*STAR's Genome Institute of Singapore (GIS), Sun Yat-sen University (Guangzhou, China) and Khon Kaen University (Thailand) sought to understand how they could target the dysregulation and genomic abnormalities that causes CCA formation.

The use of multiple latest and cutting-edge technologies, including VISIUM, VECTRA and tissue ChIP-Sequencing in this study, enabled better understanding of this challenging disease to accelerate the discovery of new therapeutic strategies.

The team plans to advance personalised drug development for CCA patients and bring novel drugs targeting different groups of CCA patients to clinical trials in the near future.