New type of deadly lymphoma identified

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An international research team has identified a new type of deadly intestinal lymphoma that is particularly common in Asia. The team, led by clinician-scientists from the SingHealth Academic Healthcare Cluster, also developed a new diagnostic test to accurately identify these patients.

The study, carried out by the Singapore Lymphoma Study Group at Singapore General Hospital (SGH) and the National Cancer Centre Singapore (NCCS), has an immediate impact on patient care, with doctors now able to diagnose patients accurately and tailor more effective treatment strategies to improve outcomes. It will also impact the most recent WHO classification of haematolymphoid neoplasms.

This is the largest study of this lymphoma type, involving 60 cases from centres in Singapore and around Asia, including South Korea, Hong Kong, Taiwan, Australia, China and Malaysia. The findings were advanced published online in *Leukemia* earlier this month.

The disease, almost unheard of before 2008, has been classified as an alternative type of enteropathy-associated T-cell lymphoma (EATL Type I), a disease common in Caucasians and associated with coeliac disease.

"We discovered that the intestinal lymphoma commonly seen in Asian patients has no links to coeliac disease or EATL Type I found in Caucasians," said Associate Professor Tan Soo Yong, Senior Consultant, Department of Pathology at SGH, and first author of the study. "Instead, we discovered that the pathology of this disease is very different and

most likely originates from a unique epithelial cell type found in the intestine, making it a completely different disease type."

"We, therefore, propose to re-classify the disease, currently labelled EATL Type II, as 'Epitheliotropic Intestinal T-cell Lymphoma' (EITL)," added Assoc Prof Tan, who is also Director of the SingHealth Tissue Repository and a faculty at Duke-NUS. This would impact the WHO's classification.

In addition, the team has identified a novel biomarker, known as MATK (megakaryocyte-associated tyrosine kinase), and developed a diagnostic test that enables clinicians to accurately diagnose patients suffering from this type of lymphoma. Requests for this test have come in from around the world, including China and the U.S.

"Our research has an immediate impact on the care we can provide to patients with this rare but very aggressive intestinal lymphoma," said Associate Prof Lim Soon Thye, Deputy Head and Senior Consultant, Department of Medical Oncology, NCCS, and Associate Professor at Duke-NUS. "With an accurate diagnosis, we can treat our patients better and improve overall survival." The average overall survival observed by the researchers was only seven months.

The study is a testimony to the close collaboration between scientists, pathologists and clinicians in the Singapore Lymphoma Study Group and investigators from across the region. "It underscores the importance of working with a multidisciplinary team across institutions and countries to address gaps in research in Asia," added Assoc Prof Lim, who is the senior author of the study.

Expanding on the benefit of a multi-disciplinary approach, Professor Teh Bin Tean, Professor at NCCS and Duke-NUS, said: "One of the advantages of pursuing academic medicine is that we can approach

questions seen at the bedside from all angles, avoiding a silo approach. And once we have results, the different team members bring this knowledge back to their different specialties – to develop diagnostic kits, identify potential drug candidates or to implement changes to clinical practice."

Next, the researchers plan to collaborate with international experts in the United States and Canada to investigate the cell of origin and explore immunological approaches to block its growth.

More information: Tan SY et al. Type II EATL (epitheliotropic intestinal T-cell lymphoma): a neoplasm of intra-epithelial T-cells with predominant CD8αα phenotype. *Leukemia*, advance online publication 12 March 2013; doi: 10.1038/leu.2013.41

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