International Team addresses Rare Teenage and Young Adult Cancer in late-breaking publication

LANDMARK INTERNATIONAL COLLABORATION CREATES A FOUNDATION FOR DRUG DEVELOPMENT IN YOUNG ADULT CANCER CALLED CCS, OPENING THE DOOR TO NEW POTENTIAL THERAPY

THE SILICON FOREST, HILLSBORO, OREGON, USA, March 23, 2023 /EINPresswire.com/ -- Researchers at the Children's Cancer Therapy Development Institute (cc-tdi.org) with international collaborators have uncovered the genetic makeup and underpinnings of a cancer of adolescents and young adults called Clear Cell Sarcoma (CCS). Clear cell sarcoma occurs in both the gastrointestinal tract and the soft tissues like muscle. This landmark paper appears today in the British Journal of Cancer (https://www.nature.com/articles/s41416-023-02222-0).

This study originated with a conversation between Drs. Patrick Schoffski and Dr. Agnieszka Wozniak at the Leuven Cancer Institute and the team at cc-TDI regarding a patient in need, but quickly evolved into a collaboration. The international team included the Leuven Cancer Institute (Belgium), Seattle Children's Hospital, Massachusetts General Hospital and Harvard University (US), the National Cancer Center Research Institute, University of Miyazaki and Japanese Foundation for Cancer Research (Japan), Petrov National Medicine Research Center of Oncology (Russia), Instituto Valenciano de Oncología and Patologika Laboratorio (Spain), University of Toronto, Mount Sinai Hospital and Lunenfeld-Tanenbaum Research Institute (Canada), and The Royal Marsden Hospital and Institute Cancer Research (UK). Companies participating included Atomwise and Omics Automation.

Highlights of the study include having defined the major genetic differences between CCS of the gastrointestinal tract versus the soft tissues like muscle, with the added but key observation that both subtypes express HER3 proteins. Using a clinical investigation grade antibody drug conjugate patritumab deruxtecan, the researchers could show a dose-dependent therapeutic effect on CCS cancer cells in petri dishes. "Additional studies further defining the percentage of CCS patients with HER3 in their tumors, as well as drug testing in animals, are warranted before considering a clinical trial. However, for a disease that up to this point has no treatment when the disease has spread beyond the original site, this avenue of research is promising" says Dr. Charles Keller, senior author of the study. "It was amazing how physicians and researchers around the world came together for this study – a beautiful example of open science without borders," says Samuel Rasmussen, the cc-TDI mechanical engineer who systematically directed these studies.

The collaboration was inspired by the parents of Sara, a young woman with clear cell sarcoma and a survivor of the disease (https://sarascure.org/about/). Important aspects of this study were funded by The Rucker Collier Foundation for sclerosing epithelioid sarcoma (SEF), a sarcoma with a highly related genetic fusion gene, EWSR1-CREB3L1, which is reminiscent of the EWSR1-CREB1 fusion sometimes found in CCS. Other funding was provided by Golf Fights Cancer (https://golffightscancer.org/) in honor of Peter Fox. The Sam Day Foundation provided funding for patient sample processing & sequencing through the CuReFast program (https://cc-tdi.org/cure-fast/).

For more information on cc-TDI's mission to move scientific discoveries to clinical trials for children with cancers, visit www.cc-TDI.org.

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