Medizinische Fakultät
der Martin-Luther-Universität
Halle-Wittenberg

UKH
Universitätsklinikum
Halle (Saale)

Press Release

Stabsstelle Presse und Unternehmenskommunikation

Leiterin und Pressesprecherin
Christina A. Becker

Hausanschrift:
Kiefernweg 34
06120 Halle (Saale)

Telefon: (0345) 557 1032
Telefax: (0345) 557 902928

E-Mail: presse@uk-halle.de
www.medizin.uni-halle.de

University Medicine Halle: breakthrough in post-viral inflammation syndrome research

A team of scientists around Professor Dr Mascha Binder, director of University Medicine Halle and the Department for Internal Medicine IV (Haematology/Oncology) has achieved a breakthrough in researching the multisystem inflammatory syndrome in children (MIS-C) in cooperation with a US consortium. This syndrome can develop in children – particularly in school-age children – after a SARS-CoV-2 infection. MIS-C is characterised by inflammation of organs such as the skin, heart, gastrointestinal tract, lungs, liver and kidney. Some of the features of the disease overlap with those of sepsis. As many as 25% of children and adolescents affected require intensive care treatment.

MIS-C does not appear immediately after an infection with the corona virus, but only up to six weeks later. Professor Binder's team explored potential causes vis-à-vis the onset of MIS-C. "One of the biggest questions surrounding this syndrome had been why it affects some children but not others," Professor Binder explains. "We were first to show that a certain type of HLA tissue characteristics seems to be linked to developing MIS-C. These tissue properties are rare, which explains why fortunately few children develop this potentially life-threatening syndrome after a COVID-19 infection." The team's research also showed that the immune systems of children who have MIS-C can attack their body's own structures while they have the syndrome. This explains organ issues in children with MIS-C. Professor Binder recommends parents whose children display inflammatory symptoms or other abnormalities following recovery from an infection with SARS-CoV-2 to consult a physician to rule out MIS-C or provide adequate treatment.

The data produced in collaboration with scientists from Boston and Los Angeles has been extremely well-received by the international medical and research community. The results have been published in two articles in the Journal of Clinical Investigation („HLA Class I-associated expansion of TRBV11-2 T cells via a CDR3-independent mechanism in Multisystem Inflammatory Syndrome in Children (MIS-C)", https://www.jci.org/articles/view/146614, DOI: 10.1172/JCI146614, and „The autoimmune signature of hyperinflammatory multisystem inflammatory syndrome in children", https://www.jci.org/articles/view/151520, DOI: 10.1172/JCI151520).