

Media release

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On track to heal leukaemia

The first clinical studies for a new type of immunotherapy for leukaemia are beginning at Bern's Inselspital, Bern University Hospital. Antibodies discovered in the laboratory should inhibit the growth of tumour cells.

Leukaemia stem cells: they have the ability to renew themselves and are resistant to most current, existing cancer therapies (chemotherapy, radiation, targeted medications). Because the cells are responsible for the development of blood cancer, they also regulate the course of disease. The faster they multiply, the faster the illness progresses.

Therefore, since 2009, the tumour immunology researchers PD Dr. sc. nat. Carsten Riether and Dr. Christian Schürz have been studying the characteristics of leukaemia stem cells at the Department of Clinical Research, along with the University Clinic for Medical Oncology at Inselspital, Bern University Hospital. In the "Journal of Experimental Medicine", they could demonstrate that the interaction between the CD70 and CD27 cell molecules leads to higher growth.

Attacking leukaemia at its source

In order to heal acute leukaemia, the leukaemia stem cells must be eliminated. Accordingly, they play a central role in the treatment of the illness. The immunology researchers in Bern were able to develop an antibody in a lab that blocks the CD70/CD27 interaction in the tumour cells, which blocks the multiplication of healthy, haematopoietic stem cells, but does not limit them. In the recently published pre-clinical study, this led to the inhibited development of the illness and prolonged survival.

As a result, the renowned immunotherapy researcher Prof. Dr. med. Adrian Ochsenbein's research group laid the foundation for a clinical study at Inselspital, Bern University Hospital. Beginning in January 2017, a pilot group of patients with acute leukaemia will have access to new, promising treatment methods for an illness that is otherwise often very difficult.

Link to the study:

<http://jem.rupress.org/content/early/2016/12/27/jem.20152008>

Captions:

From left: Dr. Carsten Riether, Dr. Christian M. Schürch and Prof. Adrian F. Ochsenbein in the laboratory (photo: Susi Bürki).

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