

New Task for an Old Acquaintance:

Suramin Is Effective Against Acute Liver Failure

The drug suramin was a breakthrough in the combat against sleeping sickness in the 1920s. Scientists of the Deutsches Krebsforschungszentrum (German Cancer Research Center, DKFZ) have now been able to show that this substance is also effective against acute liver failure.

In the latest issue of the science magazine *Nature Medicine*^{*}, Dr. Sören Eichhorst, Dr. Andreas Krueger and colleagues of the division headed by Professor Peter Krammer describe a promising new application for the tried and tested medicine. They have discovered that suramin inhibits programmed cell death, or apoptosis, in liver cells. This effect is liver-specific: In the cells of other tissues the substance sometimes even promotes cell death.

Fulminant hepatic failure or acute liver failure (ALF) can occur as a result of drug or mushroom poisoning as well as of infections with hepatitis B virus (HBV). In ALF, the majority of liver cells (hepatocytes) die by apoptosis. To date, there is no medicine against this process. Researchers at DKFZ have induced liver failure experimentally in mice and have shown that animals treated instantly with suramin survived significantly longer than untreated animals.

In most cases, ALF in humans takes a fatal course, too. Clinical trials will now be initiated to determine whether the protective effect of suramin can improve the chance of survival in sufferers.

The drug was developed and launched under the name Germanin in 1916 by what was then "Farbenfabrik Bayer AG". Suramin was the first effective medicine to treat sleeping disease which, at the time, occurred in devastating epidemics in large parts of Africa. Later on, suramin was successfully used in the treatment of river blindness, a common tropical disease caused by a worm. It has also been tested against the AIDS virus. The substance is presently being tested as a therapy in various tumor diseases.

^{*}Suramin inhibits death receptor induced apoptosis in vitro and fulminant apoptotic liver damage in mice. Sören T. Eichhorst, Andreas Krueger, Susanne Muerkoster, Stefanie C. Fas, Alexander Golks, Uwe Gruetzner, Louise Schuber, Christine Opelz, Manfred Bilzer, Alexander L. Gerbes and Peter H. Krammer *Nature Medicine* June 2004

The task of the Deutsches Krebsforschungszentrum in Heidelberg (German Cancer Research Center, DKFZ) is to systematically investigate the mechanisms of cancer development and to identify cancer risk factors. The results of this basic research are expected to lead to new approaches in the prevention, diagnosis and treatment of cancer. The Center is financed to 90 percent by the Federal Ministry of Education and Research and to 10 percent by the State of Baden-Wuerttemberg. It is a member of the Helmholtz Association of National Research Centers (Helmholtz-Gemeinschaft Deutscher Forschungszentren e.V.).

This press release is available at www.dkfz.de/pressemitteilungen

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