The beginning of albumin-bound drugs

A tumor consists of degenerate, uncontrolled growing cells in the area surrounding the proliferate tissue. Tumor cells multiply rapidly and require substantially more energy than healthy cells. To meet this need the cancer cells extract large amounts of protein, in particular human serum albumin (HSA), from the blood. In healthy cells this is not the case.

In the 1950’s American scientists realized that the HSA protein could be utilized as carrier for drugs. In the end of the 1990’s Dr. Hannsjörg Sinn and his team at the Cancer Research Center (DKFZ) in Heidelberg were first to succeed at using this carrier medically. Subsequent clinical studies showed that albumin-bound substances were accumulated in the tumor and not the healthy tissue.

Targeted therapy for tumor diseases and metastases

The scientists at the DKFZ discovered a way to successfully couple already approved agents, such as e.g. Methotrexate (MTX), to albumin and use this as a carrier to infiltrate tumor cells according to the Trojan principle. This highly efficient carrier conceals the drug until it is released inside the tumor (or metastases) and begins to take effect.

Through selective accumulation in the tumor, the broad spectrum of severe side effects is reduced. Moreover, due to the coupling of MTX-HSA, the active ingredient remains in the blood considerably longer. The pharmacological half-life of MTX-HAS is around 19 days. When administered purely MTX has a half-life of between thirty minutes and three hours.
About us

At the end of 2015, Petra and Michael Denck started the Foundation Albumin-Carrier-Therapy. Michael Denck had met biochemist Hannsjörg Sinn at the German Cancer Research Institute in 2006. After Dr. Sinn's retirement, Mr. Denck helped him to continue his research in the private sector and has carried on his life's work since his death.

In 2013 Petra Denck fell ill with a malignant brain tumor and was treated with the drugs curcumin and MTX-HSA. The treatment was nearly side effect-free and led to a complete remission.

Outlook

Our aim is to further develop and promote albumin carrier therapy. The next step will be clinical trials with different chemotherapeutic agents and natural products in collaboration with doctors and clinics so that in the future more patients can use this gentle treatment. The potential of albumin carrier therapy with MTX-HSA also includes the treatment of inflammatory diseases such as rheumatism.

Charity is part of the purpose of our foundation. This means that in individual cases we assume the costs for albumin-bound active ingredients for poor people as part of a therapy.

Foundation
Albumin-Carrier-Therapy

Albumin-Carrier-Therapy is a low-side-effect form of tumor treatment in which the chemotherapeutic is coupled to the blood-borne protein albumin and transported directly into the cancer cells. Healthy cells therefore do not absorb the albumin conjugate and patients are largely spared the classic side effects.

Our goals

With our foundation we want to make the potential of this therapy known in order that more patients can soon take advantage of it. Working alongside our network of scientists, doctors and donors, we have developed the treatment even further using a number of active ingredients and are planning more studies.

Solid tumors extract large amounts of albumin from the bloodstream.