

Unsolved puzzle in hepatology on the brink of resolution

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Primary sclerosing cholangitis is a currently incurable liver disease that mostly affects younger people aged between 30 and 40. There are now justified hopes that this disease could be cured using synthetically manufactured bile acids, a process that is being researched in the Clinical Department of Gastroenterology and Hepatology at the MedUni Vienna.

"Primary sclerosing cholangitis is one of the last big 'black boxes' in hepatology, one of the last unsolved mysteries," says Trauner. "If the cure works with Nor-Urso, this would be a remarkable breakthrough in

hepatology." It would also underpin the internationally leading position that hepatology at the MedUni Vienna holds.

The first clinical study phase of this synthetically manufactured bile acid (active ingredient nor-ursodeoxycholic acid / Nor-Urso) has been successfully completed, following the extremely promising results from pre-clinical models. These were able to demonstrate that Nor-Urso works directly on the biliary tract and flushes the [bile ducts](#) of toxins by increasing bicarbonate-rich biliary secretions. The underlying mechanisms have now been explored further in collaboration with the MedUni Graz. A phase II study was recently launched which is being carried out in a multi-centre version across 30 centres throughout Europe and which is being led by Trauner.

Also effective for fatty liver and diabetes?

Bile acids are not only involved in the secretion of bile fluids and fat digestion, but also have hormone-like effects, particularly on the regulation of fat and [glucose metabolism](#) in the [liver](#). Researchers at the MedUni Vienna are currently also investigating what role these effects of Nor-Urso and other bile acid derivatives play in the treatment of fatty liver, diabetes, fat metabolism problems and [arteriosclerosis](#) and how they could replace current conventional treatment methods and drugs.

Generally speaking, bile acid research is a very traditional domain that has taken a completely new direction in terms of research over the last few years. Research into the therapeutic benefit and mechanisms of bile acids is at the heart of the work carried out by Trauner and his team - and the MedUni Vienna is again playing a leading role worldwide in this. Trauner and his team are also part of a special research division (SFB 35) at the MedUni Vienna which is primarily dedicated to researching transport processes for [bile acids](#) and medicines.

Primary sclerosing cholangitis, the cause of which is not yet known, is one of the rare (orphan) diseases with a poor prognosis since the disease can progress to liver cirrhosis and cancer of the bile ducts. The condition affects 0.01 per cent of the population. "Without a liver transplant, the average life expectancy of an affected patient is twelve years, with 65% living more than a decade," says Trauner. Of note is the fact that there is a marked north/south divide within Europe for this condition. [Primary sclerosing cholangitis](#) is much more widespread in Scandinavia, for example, than in more southerly countries.

Provided by Medical University of Vienna

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