Spotlight on non-alcoholic fatty liver disease

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World-class research by University of Birmingham scientists and clinicians into a deadly and increasingly common form of liver disease goes under the spotlight in a BBC Radio 4 documentary.

The University, working with University Hospitals Birmingham NHS Trust's Queen Elizabeth Hospital, is one of the world's leading centres for researching and treating liver disease.

BBC presenter Dr Mark Porter visits the hospital and the University's Liver Biomedical Research Unit, a dedicated liver research facility on the hospital site which is funded by the National Institute for Health Research (NIHR).

He meets liver consultants Dr Philip Newsome and Dr Gideon Hirschfield as well as pathologist Prof Stefan Hubscher, for the Radio 4 Inside Health programme, in which he is given an insight into the difficulties of detecting non-alcoholic fatty liver disease. This is estimated to affect one in five adults in the UK, and four in five adults who are obese. If untreated, it can lead to liver scarring and death.

The programme examines the nature of non-alcoholic fatty liver disease and its associated symptoms.

The LEAN (Liraglutide's Effect and Actions in Non-alcoholic Steatohepatitis) study is funded by the Wellcome Trust and NIHR with industrial support from Novo Nordisk, to investigate the potential of a new anti-diabetes drug known as Liraglutide in patients with non-alcoholic fatty liver disease. Liraglutide mimics a naturally-occurring hormone produced in humans after eating that improves the body's response to insulin. It also inhibits appetite and slows emptying of the stomach, which promotes weight loss. Data from Birmingham indicates that Liraglutide can improve liver blood tests in diabetic patients. These results, combined with studies in rodents, suggest the drug may be a safe new treatment for patients with non-alcoholic fatty liver disease, which is now the commonest cause of chronic liver disease in the western world, estimated to affect one in five adults in the UK and four in five adults who are obese, and for which there are currently no safe and effective therapies. If untreated, it can lead to liver scarring and death.

The LEAN study, for which Dr Newsome is the Chief Investigator, is investigating whether 48 weeks' treatment with the injectable drug Liraglutide can reduce liver damage in patients with non-alcoholic steatohepatitis, which is an aggressive form of non-alcoholic fatty liver disease that causes scarring in the liver, risking cirrhosis and irreversible liver damage.
Patients are recruited to the clinical trial by Dr Matthew Armstrong (Wellcome Trust/NIHR funded clinical research fellow) who oversees their treatment and progress. Patients are seen in the liver out-patients department in the Queen Elizabeth Hospital and in the Wellcome Trust Clinical Research Facility.

Among the ground-breaking work underway is the world's largest randomised trial of stem cell treatment in patients with liver cirrhosis, led by Dr Newsome. The phase two clinical trial, called `REALISTIC` is using haematopoietic stem cells to combat cirrhosis, and is taking part in collaboration with the Birmingham University Stem Cell Centre and NHS Blood and Transplant in Birmingham.

"We're leading the country on this particular research and we couldn't do that without the Wellcome Trust CRF and the NIHR funded-BRU," says Dr Newsome.
Professor David Mutimer is also leading work on new treatments for hepatitis, and Other work at the BRU is looking at how the immune system can sometimes attack the liver, while researchers are also examining the use of biomarkers to diagnose liver disease and liver cancer.

You can listen to the program **Inside Health (http://www.bbc.co.uk/iplayer/episode/b01l7wqf/Inside_Health_Liver_disease_Hepatitis_C/)** on the BBC iPlayer