

# Possible hepatitis C vaccine

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Hepatitis C Virus (HCV) infects up to 500,000 people in the UK alone, many of the infections going undiagnosed. It is the single biggest cause of people requiring a liver transplant in Britain. Now, in a collaborative effort with groups across Europe and the USA, scientists from The University of Nottingham have found monoclonal antibodies which may be a significant step towards a vaccine.

Hepatitis C treatment is expensive and not successful in all patients. Untreated or unresponsive patients can go on to develop cirrhosis of the liver, with life affecting consequences or the need for a liver transplant.

Dr Alexander Tarr, a Research Fellow at the Institute of Infection, Immunity and Inflammation presented a paper ‘Human antibodies to Hepatitis C virus — potential for vaccine design’ at the Society for General Microbiology’s 161st meeting which is being held at The University of Edinburgh this week.

The group has recently analysed antibodies that can successfully prevent infection with many diverse strains of Hepatitis C virus in laboratory models. Dr Tarr said: “The clinical potential of this work cannot be overstated. Historically, successful vaccines against viruses have required the production of antibodies, and this is likely to be the case for Hepatitis C virus. Identifying regions of the virus that are able to induce broadly reactive neutralising antibodies is a significant milestone in the development of a HCV vaccine, which will have distinct healthcare benefits for hepatitis sufferers, and could also help us design vaccines for other chronic viral diseases such as HIV”.

Hepatitis C virus infects 180 million people worldwide. Infection with the virus can lead to liver cancer, and is the most common reason for liver transplantation in both the UK and the USA.

“We are also currently exploring the possibility of improving liver transplantation success rates by passively infusing people with these antibodies” said Dr Tarr. “We are also using the information gained by identifying and characterising the antibody responses to Hepatitis C virus to design new ways of making vaccine candidates. If the antibodies we have discovered can be reproduced by vaccination, control of the disease might be possible”.

Source: University of Nottingham

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