

# Early treatment is key to combating hepatitis C virus

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Canadian researchers have shown that patients who receive early treatment for Hepatitis C virus (HCV) within the first months following an infection, develop a rapid poly-functional immune response against HCV similar to when infection is eradicated spontaneously, according to a new study published in the *Journal of Virology*. Therefore, early treatment can restore immune response against HCV and help eliminate the virus rapidly. This new discovery of the mechanisms of viral eradication could contribute to the development of new treatments.

About a quarter of infected individuals eradicate the infection spontaneously, without treatment. Led by Dr. Naglaa Shoukry and Dr. Julie Bruneau, affiliated to both the Research Centre of the Université de Montréal Hospital Centre and the Université de Montréal, as well as with researchers from the Institut national de la santé et de la recherche scientifique (Montréal branch), the study found that early treatment restores a rapid poly-functional immune response, characterized by the simultaneous production of multiple antiviral mediators.

HCV is transmitted through infected blood. Although a quarter of infected patients can eradicate the infection spontaneously, the majority develop persistent infection, a major cause of cirrhosis and cancer of the liver. The only approved treatment for HCV is an anti-viral drug known as pegylated interferon alpha. This drug is successful in only half of cases when administered during chronic infection. Success rates among those treated early after infection are significantly higher or around 90%.

In North America alone, most new HCV infections occur among intravenous drug users (IDUs), a vulnerable population that is often undiagnosed and untreated. In the study, researchers followed a group of IDUs at high risk of HCV infection before and immediately after exposure to HCV. Their findings clearly show the importance of early diagnosis and treatment of HCV – particularly in marginalized populations such as IDUs and aboriginal populations.

Source: University of Montreal

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