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Breakthrough in Hepatitis B research

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Earlier Treatment for Young Patients With Chronic Hepatitis B May Be More Effective in Clearing Virus

Singapore: Scientists from A*STAR's Singapore Institute for Clinical Sciences (SICS), together with clinical collaborators from London, discovered for the first time that children and young patients with chronic Hepatitis B Virus infection (HBV carriers) do have a protective immune response, contrary to current belief, and hence can be more suitable treatment candidates than previously considered.

This discovery by the team of scientists led by Professor Antonio Bertoletti, programme director and research director of the infection and immunity programme at SICS, could lead to a paradigm shift in the current treatment of patients with chronic HBV. The findings were published in *Gastroenterology* on 1st September.

Current guidelines from international liver associations recommend delaying therapy until HBV carriers show clear signs of active liver disease, which generally appear after the age of 30. This is based on two assumptions. One, young patients are unable to react to treatment because they are immune-tolerant to the virus. This means that there is no protective immune response in their body to help them get rid of the virus, and therefore, they will not run the risk of liver damage or inflammation. Two, HBV infection is largely harmless in HBV carriers until active liver disease is apparent.

However, Professor Bertoletti and his team showed that young patients are not immune tolerant as they posses HBV-specific T cells with the ability to produce distinct antiviral cytokines that help the body fight against HBV. They also showed that the longer a patient is left untreated, the less effective their immune system becomes against HBV and the less able the patient will be able to clear the virus from their body even when they receive treatment.

Professor Judith Swain, executive director, SICS, said, "These findings may change the way treatment is applied to patients with HBV in hospitals in Singapore and throughout the world. This is a fine example of how clinicians, physician scientists, and scientists work together to improve healthcare for the public."