

# Nobel Prize for Medicine

October 6, 2020

In News

Two Americans and a British scientist have been awarded the 2020 Nobel Prize for Medicine for their **contribution in identifying the Hepatitis C virus, which causes cirrhosis and liver cancer.** Announcing the prize in Stockholm, the Nobel Committee said that the work of Harvey Alter, Charles Rice, and Michael Houghton has helped **explain a major source of blood-borne hepatitis that couldn't be explained by the hepatitis A and B viruses.**

More About the 2020 Nobel Prize for Medicine

- In 2016, this viral infection led to the death of nearly 400,000 people across the world. **A vaccine for the disease has still not been developed.**
- Before the discovery of the Hepatitis C virus, two other viruses were known to cause hepatitis in patients.
- The **Hepatitis A virus** was known to **spread mainly through contaminated food and water**, and caused a relatively **milder form of liver inflammation.**
- **Hepatitis B**, discovered in the 1960s, was known to **transmit mainly through infected blood**, and caused a more serious form of the disease.
- The discovery and identification of Hepatitis B virus facilitated the development of a diagnostic test to detect its presence in blood. Thereafter, only blood sanitised from this virus would be given to patients, but it was observed that even this sanitised blood was able to prevent only 20% of the blood-borne hepatitis cases. It was then that the search for the new virus began.
- The discoveries of HBV and HCV, and the **establishment of effective screening routines**, have virtually eliminated

the risk of transmission via blood products in many parts of the world.

- Due to the development of highly effective drugs against HCV, it is now possible, for the first time in human history, to foresee a future where the threat of this virus infection is substantially reduced and hopefully soon eliminated.
- The simplest way to understand the importance of the work of these scientists was to know that the **blood that is given to all kinds of patients has now become a lot safer.**
- A vaccine for this has not been developed mainly because **it's a very fast-changing virus.** But it is **possibly the only chronic virus for which a definitive cure is now available.**

### Contribution of the Scientists

- It was until 1970s that the non-A, non-B hepatitis was discovered by **Harvey Alter**, who was then **studied blood transfusion patients** at the U.S. National Institutes of Health.
- Later, **Michael Houghton**, working for the pharmaceutical firm Chiron, undertook the arduous work needed to **isolate the genetic sequence of the virus**, and named the unknown virus, Hepatitis C in 1989.
- **Charles M. Rice** was the person who provided the **final evidence showing that Hepatitis C virus alone could cause hepatitis.**