

# Clearance of hepatitis C viral infection after liver transplantation

**Touching stories of living donor transplantation are continuously happening in hospitals. One of these stories is reported recently in the August 14 issue of the *World Journal of Gastroenterology* because of its shining significance in hepatology. This article is going to bring comfort to many families.**

It is about a desperate patient brought to Dr. Tatsuki Ichikawa in the Nagasaki University Hospital, Japan in 2004. This patient was quite a challenge for Dr Ichikawa. She was 60 years old with liver cirrhosis (LC) and liver cancer caused by hepatitis C virus (HCV); she had been diagnosed diabetic since 1995; and previous chemotherapies aiming to remove cancer did not bring any satisfactory result.

To free the patient from the severely damaged liver, liver transplantation (LT) was considered by Dr. Ichikawa when a loving daughter of the patient decided to donate part of her liver to her mother. However, one possibility that concerned Dr. Ichikawa most was that the explanted liver would get re-infected and progress rapidly to LC, since previous data indicated that complete clearance of HCV is the prerequisite for patients to have a good outcome. To minimize this possibility, patients were traditionally treated with interferon (IFN) and/or ribavirin before LT.

Trying to save the life of the patient, Dr Ichikawa decided to introduce the more powerful medicine, PEGylated IFN, in the treatment before liver transplantation. PEGylation is a chemical modification incurring higher water-solubility and higher stability to the modified polypeptide medicine. Five weeks after the PEG-IFN treatment, HCV antigen was no longer detectable from the patient serum, but HCV-RNA persisted. Even after the long treatment for 18 weeks, HCV RNA was still detectable. Since the complete clearance of HCV RNA seemed impossible, the liver transplantation was performed.

Unexpectedly and excitingly, clearance of HCV RNA was achieved just one month after the successful liver transplantation and HCV was never detected in this patient thereafter. Thus, this is the first reported case in which a complete recovery from HCV infection was achieved after LT, with a patient who was diagnosed positive in HCV-RNA and negative in HCV core antigen before LT. Dr. Ichikawa suggested that the long acting of PEG-IFN might bring good outcome to similar patients awaiting liver transplantation.

This case no doubt brings promising future for many LC patients. Due to the high percentage of HCV infected population in the world and unavailability of commercial vaccine against HCV, the case reported by Dr Ichikawa surely worth the attention of both doctors and common people.

Source: World Journal of Gastroenterology

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