**Introduction and Aim**

- Hepatitis C virus (HCV) infection is a major cause of chronic hepatitis and cirrhosis. HCV is a major public health problem worldwide.
- The primary objective of treatment for chronic hepatitis C is to eradicate HCV and to prevent progression to cirrhosis or HCC. We previously reported that the eradication of HCV infection decreases the occurrence of HCC (Ogawa E, et al. J Hepatol 2013; 58: 495-501).
- Pegylated interferon α (PEG-IFNα) plus ribavirin (RBV) combination treatment is a standard therapy for chronic hepatitis C patients. However, adverse effects such as psychological problems or cytopenia are observed during treatment, and 25–40% of patients discontinued treatment.
- Natural human interferon (nIFNβ) and RBV combination treatment has mild adverse effects and equivalent efficacy, and has been approved for depressed patients with chronic hepatitis C in Japan.
- This case-control study was done to compare the efficacy and safety of nIFNβ and RBV combination treatment with that of PEG-IFNα and RBV combination treatment for Japanese chronic hepatitis C patients.

**Methods**

1. A total of 60 Japanese patients with chronic hepatitis C were treated with nIFNβ (Feron®; Toray Industries Inc., Tokyo, Japan) and RBV (Rebetol®; MSD, Tokyo, Japan) combination treatment. We retrospectively selected 60 patients treated with PEG-IFNα2b (PEG-Intlron®; MSD) and RBV combination treatment, which matched for genotype, sex, age, and body weight with those of nIFNβ and RBV treatment.
2. Patients were categorized as below.
   - Group X1 (N=42): genotype 1b with nIFNβ and RBV for 48 weeks
   - Group X2 (N=18): genotype 2 with nIFNβ and RBV for 48 weeks
   - Group Y1 (N=42): genotype 1b with PEG-IFNα2b and RBV for 48 weeks
   - Group Y2 (N=18): genotype 2 with PEG-IFNα2b and RBV for 48 weeks
3. nIFNβ was given intravenously at a dose of 6 million units daily for 4 weeks, followed by three times a week for 20–44 weeks.
4. Sustained virological response (SVR), by COBAS TaqMan HCV test, at 24 weeks after therapy was done based on intention-treatment-analysis.
5. Informed consent was obtained from all patients before enrolment.

**Results**

1. The SVR rates of nIFNβ treated group were equivalent to those of PEG-IFNα2b treated group (genotype 1b, 21.4 % vs 33.3 %, P = 0.328; genotype 2, 72.0 % vs 88.9 %, respectively). The SVR rates of the nIFNβ treated group were significantly higher than the PEG-IFNα2b treated group in group X2 (72.0 % vs 88.9 %, respectively, P = 0.177).

**Conclusion**

nIFNβ plus RBV combination treatment is an optional treatment for chronic hepatitis C patients with depression and thrombocytopenia.