Project title: Kaohsiung Chang Gung Memorial Hospital Cancer Research Project
Program title: Liver transplantation in treatment of the hepatocellular carcinoma

The Efficacy of Sofosbuvir/Ledipasvir or Sofosbuvir/Daclatasvir based Therapies (with/without ribavirin) for Recurrent Hepatitis C (genotype 1,2,3) in Liver Transplantation Recipients

Tsung-Hui Hu, Chao-Long Chen, Chi-Che Lin, Yu-Hong Lin
胡琮輝，陳肇隆，林志哲，林育弘

Liver transplant center, Kaohsiung Chang Gung Memorial Hospital, Taiwan

Background and Aims: The efficacy of direct-acting antiviral (DAA) agents for liver transplant patients was well recognized. Issue whether ribavirin is required for this population remains controversial.

Aims: We aimed to investigate effectiveness of sofosbuvir based therapies with/without ribavirin for recurrent hepatitis C (genotype 1, 2, 3) in liver transplantation recipient in Taiwan.

Methods: A prospective, two cohort study was conducted. 100 patients who have undergone liver transplantation with recurrent hepatitis C were enrolled. There are 71 genotype 1, 27 genotype 2, and 2 genotype 3 patients. The therapeutic regimens were sofosbuvir/ledipasvir plus ribavirin (+/-RBV) 12 weeks for genotype 1, and sofosbuvir plus ribavirin or sofosbuvir/daclatasvir (RBV free) 12 weeks for genotype 2/3 patients. End pint is sustained virological response 12 weeks after cessation of therapy.

Results: At present, 100 patients have received complete course of treatment, and reached the end of follow up. There were two therapeutic cohorts. Among them, 40 were treated with SOF+LDV(Harvoni)+RBV for GT1 patient, and SOF+RBV for GT2 patients in the first cohort (before 2017). The 2nd cohorts included 60 patients, treated with Harvoni for GT1 patients, and SOF+DCV (after 2016-10) ◦ During treatment, undetectable HCV RNA was found in 51% (51/100) at week 2, 76% (76/100) at week 4, and 100% (100/100) at week 8 and 12. After the end of treatment, SVR4 was found in 99% (99/100), and SVR12 was found in 96% (96/100) of patients. It seems that week 6 virological response is a critical point. No patient had detectable HCV after week 6. There were four patient relapsed, three were GT1b, and one GT2. Relapsed patients were all free of RBV use. However, there was no significant difference of SVR between different genotype or therapeutic regimens. No patient was withdrawn from therapy due to adverse event. But significant lower side effects were found in the RBV free cohort. There was no significant change of serum levels of various immunosuppressants during treatment. Side effects include headache (22%, 22) 、 fatigue (21%, 21) 、 hypertension (14%, 14)、chest pain (5%, 5)、anemia with reduction of hemoglobin > 2 mg (9%, 9)、diarrhea (5%,5)、nausea (10%, 10) and arthralgia (1%, 1).

Conclusions: Patients with recurrent hepatitis C after liver transplantation tolerate sofosbuvir/ledipasvir or sofosbuvir/daclatasvir based therapies well with excellent response. RBV free patients had fewer side effects, but possibly higher relapse rates.