

All Oral Direct Acting Antiviral Therapy for Chronic Hepatitis C

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Chronic hepatitis C virus infection is one of the most serious health problems worldwide, leading to fatal complications such as cirrhosis and hepatocellular carcinoma. Peg-interferon and ribavirin combination therapy had long been the standard of care until the recent development of potent direct acting antiviral agents. The advent of protease inhibitors such as telaprevir, simeprevir, and vaniprevir enabled us to eradicate the virus with a higher than 70% sustained viral response (SVR) rate. More recently, an all oral regimen of asunaprevir plus daclatasvir has been approved in Japan for genotype 1b infected patients and used for more than 40,000 patients. The SVR12 rate among treated patients is around 90%. Currently we avoid treating patients with naturally occurring daclatasvir-resistant NS5A Y93 and L31 mutations. Subsequent approval of sofosbuvir plus ledipasvir combination therapy showed 99% SVR rate in a phase III clinical trial in Japan, and ombitasvir plus paritaprevir/ritonavir combination therapy also showed high SVR rates. For genotype 2 patients, sofosbuvir plus ribavirin combination therapy has been approved. Therapy for chronic hepatitis C is thus shifting from interferon based therapy to all oral direct acting antiviral therapy. Remaining issues to be solved include high costs, the long duration of the therapy, and difficult to treat patients such as genotype 3 infection, human immunodeficiency virus co-infection, hemodialysis, and organ transplantation. I will discuss current shifts in HCV therapy and how we plan to treat patients in the near future.