Interferon-based Therapy for Chronic Hepatitis C

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Chronic hepatitis C virus (HCV) infection is a significant health problem affecting around 170 millinon people. It can lead to progressive liver disease such as cirrhosis, hepatic decompensation, hepatocellular carcinoma (HCC). However, in contrast to hepatitis B virus (HBV) infeciton, HCV can be effectively eradicated by therapeutic agents and viral clearance is durable after long-term post-treatment follow-up.

In most Asian countries, the combination of peg-interferon (PEG-IFN) and ribavirin has long been a standard of care. The sustaine virologic response (SVR) rate was 42-52% in HCV genotype 1/4 and it has further increase through response-guided theapy (RGT) up to 70-75%. In addtion to the increase of SVR, RGT can also shorten treatment duration. The patients with genotype 2 or 3 HCV infection who clear virus by Week 4 can be successfully treated with 12–16 weeks rather than 24 weeks of pegylated interferon and weight-based ribavirin.

It became apprant that the single nucleotide polymorphisms at the loci of rs12979860 and rs8099917 near IL-28 gene strongly predict the SVR rates in HCV-genotype 1 patients receiving PEG-IFN and ribavirin. Recent meta-analysis studies deomonstrated that IL-28B genotypes strongly affect the SVR rate in HCV genotype 1/4 patients and thus it can be one of strong biomarkers to determine treatment decision.

Currently, direct acting agents (DAAs) have been approved or their approval is imminent in Asia. DAAs offer higher rates of SVR, reduced toxicity and shortened treatment duration with or without PEG-IFN/ribavirin. Interferon free regimens should be preffered therapeutic options. However, if high cost is issue, some patients may still require an interferon based regimen to ensure antiviral efficacy.

We will discuss if there is still a role for interferon based therapy in patients with HCV infection in the era of DAAs and the way of maximizing efficacy using reponse-guided therapy and favorable parametors such as IL-28 genotypes.