S33-1 Anti-viral therapy for chronic hepatitis C: current status and perspectives

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Interferon has been used as a key drug for chronic hepatitis C for more than 15 years. While an initial regimen, 24-week interferon monotherapy, achieved viral eradication only in 5% of patients with genotype 1 and a high viral load, current standard therapy, 48-week combination of pegylated interferon and ribavirin, accomplished viral eradication in more than 40% of the same patient population. Among important determinants for successful therapeutic outcome are viral factors including ISDR mutations and core 70/91 amino acid non-substitution as well as host factors including younger age, less liver fibrosis and high platelet counts. Therapy-related factors such as drug adherence and viral kinetics during therapy are also important. For patients whose serum HCV RNA is still detectable at 12 weeks after the initiation of therapy, the standard 48-week regimen would lead to insufficient outcome. In this case, 72-week of combo therapy appears to be superior to the standard therapy. Novel agents targeting to HCV protease or polymerase are currently under development in basics and clinics. Although they possess potent anti-HCV activity, administration of any single agent in this class inevitably induces rapid emergence of resistant virus. Thus, it is currently explored in combination with pegylated interferon and ribavirin. Telaprevir, a NS3/4A protease inhibitor, showed higher viral elimination by shorter dosing period when combined with pegylated interferon and ribavirin. In future, cocktail regimen, combination of several HCV-specific drugs, should be developed to avoid inevitable toxicity of pegylated interferon and ribavirin.