

Meta-Analysis of Factors Associated With Sustained Viral Response in Patients on Hemodialysis Treated With Standard or Pegylated Interferon for Hepatitis C Infection

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Introduction. The efficacy and safety of pegylated and standard interferon (IFN) have been scrutinized in meta-analyses; however, factors associated with hepatitis C viral response in patients on hemodialysis are not well investigated.

Materials and Methods. We evaluated factors that could be associated with sustained virological response (SVR) to pegylated or standard IFN monotherapy in patients on hemodialysis with chronic hepatitis C virus (HCV) infection, by performing a systematic review of the literature with a meta-analysis of clinical trials. We used both Mantel-Haenszel and DerSimonian and Laird random effects models, with heterogeneity and sensitivity analyses.

Results. Twenty-one studies on IFN- α 2a or IFN- α 2b (491 patients) and 12 on pegylated-IFN- α 2a or PEG-IFN- α 2b (279 patients) were evaluated. The pooled SVR for standard and pegylated IFN monotherapy in random effects model was 39.1% (95% confidence interval [CI], 32.1 to 46.1) and 39.3% (95% CI, 26.5 to 52.1), respectively. Pooled dropout rates were 22.6% (95% CI, 10.4 to 34.8) and 29.7% (95% CI, 21.7 to 37.7), respectively. Female gender, HCV-RNA copies per milliliter, HCV genotype, alanine transaminase pattern, duration of infection, liver fibrosis stage, and treatment duration were not associated with SVR. Only an age less than 40 years was significantly associated with SVR in both models (odds ratio, 2.17; 95% CI, 1.03 to 4.50).

Conclusions. Additional benefit of monotherapy with pegylated IFN in patients on hemodialysis with HCV infection in terms of viral response and adverse events is still unclear. According the current literature, younger age was the only determinant of SVR.

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INTRODUCTION

Hepatitis C virus (HCV) is a major cause of chronic liver disease and has been compared to a "viral time bomb." The World Health Organization has estimated that already about 180 000 000 people are infected with HCV, 130 000 000 of those being chronic HCV carriers and at a risk of developing liver cirrhosis and cancer. It is also estimated that

3 000 000 to 4 000 000 persons are newly infected each year, and most of them will develop chronic hepatitis.¹ Patients on long-term hemodialysis are the major group at risk of HCV infection. There is a large variety in seroprevalence of HCV in patients on hemodialysis. The reported prevalence of HCV among the hemodialysis population has varied from 1.9% to 84.6% in different countries and even