DOT OF SOFOSBUVIR/RIBAVIRIN +/- PEGINTERFERON WITH MINIMAL MONITORING FOR THE TREATMENT OF HEPATITIS C IN PWID IN CHENNAI, INDIA (C-DOT)

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Background:
We assessed the feasibility of field-based directly observed therapy (DOT) with minimal monitoring to deliver HCV treatment to people who use drugs in Chennai, India.

Methods:
C-DOT was a randomized, open-label trial of sofosbuvir + peginterferon alfa 2a + ribavirin (SOF+PR) for 12 weeks vs. sofosbuvir + ribavirin (SOF+R) for 24 weeks. 50 participants were randomized 1:1. Sofosbuvir and ribavirin were delivered daily at participant chosen venues and weekly peginterferon injections at a study clinic. HCV RNA testing was done to confirm active HCV infection and sustained virologic response 12 weeks after treatment completion (SVR12). No baseline genotyping or on-treatment viral loads were performed. The primary outcome was treatment completion. Primary analyses were intention-to-treat (ITT); per-protocol (PP) analyses were also conducted.

Results:
Median age was 46. All were male, 54% had <high school education and 10% significant fibrosis/cirrhosis. All self-reported history of injection drug use, 18% recent non-injection drug use and 38% alcohol dependence. Six discontinued treatment (88% completed treatment in each arm). Of the 22 who completed SOF+PR, all achieved SVR12 (ITT: 22/25 = 88% [PP: 22/22 = 100%]) but only 15 of the 22 who completed SOF+RBV achieved SVR (15/25 = 60% [PP: 15/22 = 68%]; p-value for comparison between arms=0.05). No serious adverse events occurred. Among those completing SOF+R, SVR12 was significantly less common among those reporting ongoing substance use (36% vs. 100%) and missed doses. Active substance use and missed doses did not impact SVR with SOF+PR.

Conclusions:
Field-based DOT of HCV therapy without real-time HCV RNA monitoring was feasible; however achieving 100% adherence was challenging. SOF+PR appeared superior to SOF+R in achieving SVR12, even when >10% of doses were missed with no discontinuations due to side effects. Further exploration of short duration treatment with peginterferon plus direct acting antivirals is warranted.

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