Efficacy of Group Education on Outcome Measures in Treatment of Chronic Hepatitis C Infection

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Background: Chronic hepatitis C virus (CHC) infection is the most common liver disease and the leading indication for liver transplantation in the United States. The disease has a high rate of becoming chronic (50-70% of the time), and can lead to cirrhosis in approximately 25% of these patients. Complications of cirrhosis can include liver failure with portal hypertension, hepatocellular carcinoma, and ultimately liver-related death. Antiviral therapy for CHC infection is intensive, is associated with a wide spectrum of adverse effects, and requires close surveillance over the course of treatment of 48-72 weeks duration. Pre-treatment steps to educate patients about CHC infection and its treatment may improve patient knowledge, alter patient behavior regarding treatment initiation, adherence, and completion, and improve viral outcomes. A structured and interactive group hepatitis C education intervention may provide additive information beyond standard-of-care education which may optimize these outcomes, although data supporting its impact are lacking.

Specific Aim: To determine whether a structured group hepatitis C education intervention results in: 1) Improvement in patient knowledge regarding CHC infection and its treatment; 2) Impact of patient decision to treat; 3) Improvement of adherence to antiviral therapy; 4) Increased rates of treatment completion; and 5) Improvement of rates of sustained virologic response (SVR).

Hypothesis: A structured group hepatitis C education intervention will improve patient knowledge, increase likelihood of patient decision to treat, improve adherence and completion of antiviral therapy, and improve viral eradication rates.

Methods: Prospective observational cohort/educational intervention study. Sixty consecutive subjects with CHC infection were identified and randomized to attend a structured group hepatitis C education class (group A) or receive standard-of-care education in the context of a clinic encounter (group B). Both groups took a pre-test prior to their education intervention to assess baseline hepatitis C related knowledge, and a post-test to assess knowledge retention. The primary outcome was completion of therapy. Secondary outcomes included patient knowledge, decision to initiate therapy, adherence to therapy, and SVR. Seventeen patients are included in this data analysis. As this is a longitudinal project with each patient at a different point in their treatment, only data on knowledge retention has so far been analyzed and will be included. Retention based on category of knowledge (epidemiology, treatment, general liver, general hepatitis C) was also analyzed. Paired student t-test was used for statistical analysis with a p-value of <0.05 considered statistically significant.

Results: Of the 17 patients included in this analysis, nine were randomized to the group education class (group A) and eight to standard care (group B). The average test score improved by 41% from pre-test to post-test in group A versus 20% in group B, reaching statistical significance with a p-value of 0.01. The average score for epidemiology questions improved by 45% in group A compared to 30% in group B, for treatment-related questions improved by 53% in group A compared to 25% in group B, for general liver questions improved by 31% in group A compared to 6% in group B, and for general hepatitis C questions improved by 28% in group A compared to 16% in group B. In this secondary analysis, only treatment and general liver questions reached statistical significance with p-values of 0.04 and 0.03, respectively.

Conclusions: Preliminary analysis of knowledge retention suggests that the structured group hepatitis C education intervention results in statistically significant improvements in overall knowledge regarding CHC infection, with particularly large effect sizes in the subgroup of hepatitis C treatment. Further analyses upon completion of this study will provide more clarity on knowledge retention, as well as the impact of this intervention on the decision to treat, patient adherence, completion of therapy, and rates of viral eradication.