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Coffee intake linked to improved SVR in patients undergoing treatment for hepatitis C

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Title: Coffee consumption is associated with response to peginterferon and ribavirin therapy in patients with chronic hepatitis C.

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Summary

Several epidemiological studies have linked coffee consumption to beneficial effects on liver function tests and also to protection against the development of hepatocellular carcinoma [1,2]. Recently the association of coffee intake and liver disease progression was prospectively examined in participants of the HALT-C trial [3] which demonstrated that higher coffee consumption at baseline (defined as >3 cups/day) was associated with less severe steatosis on biopsy, lower AST/ALT ratio and lower insulin and HOMA2 score. The relationship of coffee consumption and its effect on therapy for hepatitis C has not been evaluated until this study.

Coffee consumption was recorded in 885 patients with Hepatitis C using a food frequency questionnaire prior to retreatment with peginterferon α-2α and ribavirin [4]. Patients were assessed for early virological response (EVR) (defined as ≥ 2 $\log_{10}$ drop in HCV RNA at week 12) and undetectable HCV RNA at 20, 48 and 72 weeks (sustained virological response (SVR)). 85% of the study population drank coffee, with 14.9% of participants drinking ≥3cups/day. Higher percentage of patients who drank ≥ 3 cups/day tolerated full dose peginterferon (60.6% vs 50.4%, p=0.0015). After adjustment for age, race/ethnicity, sex, alcohol, cirrhosis, AST/ALT ratio, IL28B polymorphism rs12979860 and dose reduction in peginterferon, odds ratios for drinking ≥ 3 cups coffee/day vs non-drinkers were 2.0 (95% CI: 1.1-3.6; p trend= 0.004) for EVR, 2.1 (95% CI: 1.1-3.9, p trend= 0.005) for week 20 virological response, 2.4 (95% CI: 1.3-4.6, p trend= 0.001) for end of treatment response and 1.8 (95% CI: 0.8-3.9; p trend= 0.034) for SVR.

Opinion

This study provides valuable data in a difficult to treat group as all patients were previous non-responders with the large majority being genotype 1 (>90%). The non-coffee drinkers vs those who drank ≥ 3 cups/day were similarly matched but significant differences were reported: increased number of Caucasians, current alcohol drinkers and smokers were seen in the group who drank ≥3 cups/day. Patients who drank ≥ 3 cups/day of coffee were three times more likely to have a virological response then non-drinkers. This association persisted although was attenuated after adjustment for a wide range of behavioral and genetic features including rs12979860 genotype (IL28B) and HOMA2 score, suggesting an effect which is independent of other known risk factors. Unfortunately the study did not differentiate between caffeinated and decaffeinated coffee but we should consider that coffee contains >1000 compounds so it would be difficult to determine the exact compound responsible.

This study has promising results and strongly suggests that a simple lifestyle alteration such as increasing daily coffee consumption could be very beneficial in this patient group. This study was however observational, the results therefore need ideally to be replicated in a large randomized control trial but we suspect that quite a few of us already are recommending our patients to increase their daily coffee consumption.

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Conflict of Interest: None

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