

of importance only during an age-specific window or a specific time interval before diagnosis.

It is possible that other lifestyle characteristics can account for the protective effect of a late evening meal. However, we estimated the effect of late evening meal after correcting for the known HCC risk factors (liver disease severity, diabetes mellitus, family history, and interferon therapy) and for other putative confounders (duration of liver disease, and body mass index). In addition, similar results were obtained even when alcohol drinking and smoking were included in the analysis as additional potential confounders (data not shown). However, other uncontrolled factors might have affected the validity of our results. Previous studies indicated that riboflavin or vitamin B12 might reduce the risk of HCC.^{44,45} One report indicated that some nutrients were positively associated with liver cirrhosis.⁴⁶ In addition, current guidelines define a late evening meal as a type of divided meal, and thus recommend fixing the total energy intake.^{1,10} Due to the retrospective epidemiological analysis, a late evening meal in the present study could not be well characterized in terms of total energy intake as well as specific nutrients. Thus a late evening meal could be correlated with energy intake or specific nutrients.

In summary, this study showed a negative association between a late evening meal and HCC occurrence among patients with chronic hepatitis C. Further studies with larger study sizes are needed to corroborate these findings.

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