the study period. **Results:** During ~20-years of follow up, 393 incident HCC cases were identified among cohort participants. Risk of HCC increased with exposure to NO_x [hazard ratio (HR)= 1.26; 95% confidence interval (CI) = 0.80-1.96 per 50 ppb). Among non-movers, a 50 ppb increase in NO_x was significantly associated with increased HCC risk (HR= 1.88; 95% CI = 1.04, 3.39; P trend=0.037). While not statistically significant (P heterogeneity=0.08), the association with NO_x appeared stronger in women (HR=2.45; 95% CI = 0.99, 6.05; P trend=0.05). The association between NO_x and HCC was similar across racial/ethnic groups (P heterogeneity=0.77). Other pollutants, NO_2, $PM_{2.5}$ and PM_{10}, were not significantly associated with HCC risk. **Conclusion:** In this prospective study, we observed a positive association between NO_x and HCC incidence. Our findings highlight the need to investigate nitrogen oxide exposures in relation to liver health.

Disclosures:

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ASSOCIATION OF BODY MASS INDEX AND RISK OF HEPATOCELLULAR CARCINOMA ACCORDING TO LIVER DISORDER STATUS

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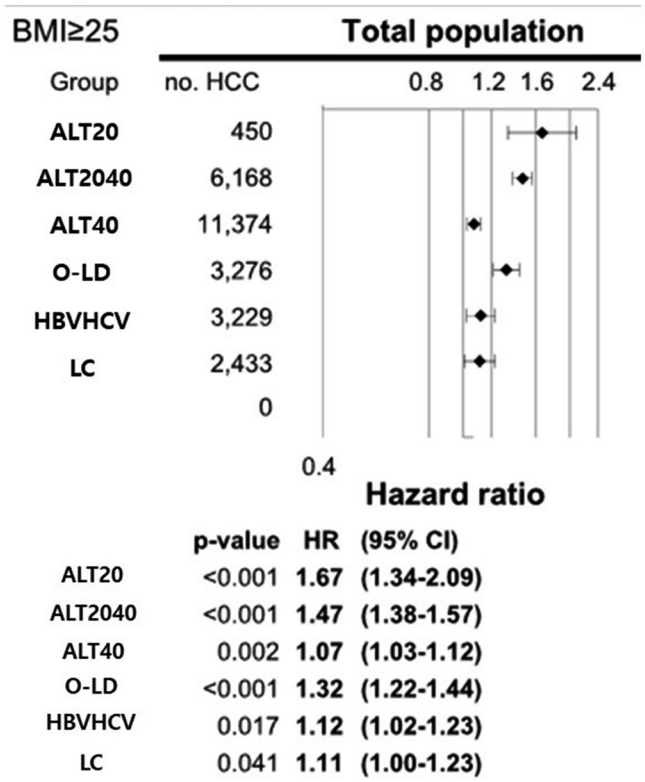
Background: The association of body mass index (BMI) with hepatocellular carcinoma (HCC) risk is high in the general population but is unknown in patients with various liver diseases. **Methods:** We used data from the National Health Insurance Service (NHIS). Hazard ratios (HRs) calculated using the Cox regression models were used to examine the association between BMI and HCC risk. We included 1,5016,551 adults (aged 18–99 years) who underwent health examinations between 2003 and 2006. The subjects were classified into six groups according to their liver diseases as follows: liver cirrhosis (LC), hepatitis B and C virus infection (HBVHCV), other liver disease (O-LD), unidentified liver disease with an alanine aminotransferase (ALT) level of ≥40 IU/ml or aspartate aminotransferase (AST) level of ≥40 IU/ml (ALT40), and no known liver disease with 20≤ALT level<40 IU/ml or 20≤AST level<40 IU/ml (ALT2040) and ALT<20 IU/ml and AST<20 IU/ml (ALT20). **Results:** During the mean 13.7-year follow-up, HCC occurred in 71,570 individuals. In the total population, BMI had a nonlinear association with HCC. BMI of >25 kg/m² was positively associated with HCC risk regardless of liver disorder. In the multivariable adjusted analysis, the HR for every 5 kg/m² increase in BMI to >25 kg/m² was 1.48 (95% confidence interval [CI] 1.44–1.52) in the total population, 1.11 (1.00–1.23) in LC, 1.12 (1.44–1.52) in HBVHCV, 1.32 (1.22–1.44) in O-LD, 1.07 (1.03–1.12) in ALT40, 1.47 (1.38–1.57) in ALT2040, and 1.67 (1.32–2.09) in ALT20. In the subgroup analysis for the HCC high-risk group, the HR of HCC (95% CI) for every 5 kg/m² increase in BMI was 1.21 in HBV-LC (1.01–1.46), 1.13 in other LC (1.08–1.19), 1.15 in HBV without LC (1.04–1.27), 1.14 in HCV without LC (0.92–1.40), and 1.05 in HCV-LC (0.64–1.74). Associations of BMI with HCC risk in patients with HBV (HR: 1.46 vs 1.05), HCV (1.30 vs 0.92), and LC (1.28 vs 1.02) were stronger in women than in men. **Conclusion:** Our study showed that BMI was positively associated with HCC risk regardless of liver disorder in patients with BMIs of >25 kg/m². As the liver disease severity weakened, the association between increased BMI and HCC became stronger. In patients with HBV, HCV, and LC, harmful effects of higher BMI on HCC risk were stronger in women than in men.



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ASSOCIATION OF INFLAMMATORY AND INSULINEMIC POTENTIAL OF DIET AND LIFESTYLE WITH RISK OF HEPATOCELLULAR CARCINOMA AMONG US ADULTS

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