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OWE-016 GENETIC VARIANTS IN PNPLA3 AND TM6SF2 PREDISPOSE TO HEPATOCELLULAR CARCINOMA IN PATIENTS WITH ALCOHOL-RELATED CIRRHOSIS

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Introduction Variants in patatin-like phospholipase domain-containing 3 (PNPLA3; rs738409), transmembrane 6 superfamily member 2 (TM6SF2; rs58542926) and membrane bound O-acyltransferase domain containing 7 (MBOAT7; rs641738) are risk factors for the development of alcohol-related cirrhosis. PNPLA3 rs738409 is also an established risk factor for the development of hepatocellular carcinoma (HCC) within this population. The aim of this study was to explore possible risk associations of TM6SF2 rs58542926 and MBOAT7 rs641738 and the development of HCC.

Methods Risk variants in PNPLA3, TM6SF2 and MBOAT7 were genotyped in 751 cases with alcohol-related cirrhosis and HCC and in 1165 controls with alcohol-related cirrhosis without HCC. Association with the risk of developing HCC was analysed using multivariate logistic regression.

Results The development of HCC was independently associated with PNPLA3 rs738409 (OR 1.84 [95% CI 1.55–2.18], $p=1.85 \times 10^{-12}$) and TM6SF2 rs58542926 (OR 1.66 [1.30–2.13], $p=5.13 \times 10^{-05}$) using an additive model and after controlling for sex, age, body mass index and type 2 diabetes mellitus; the risk associated with carriage of MBOAT7 rs641738 (OR 1.04 [0.88–1.24], $p=0.61$) was not significant. The population-attributable fractions were 43.5% for PNPLA3 rs738409, 11.5% for TM6SF2 rs58542926, and 49.9% for carriage of both variants combined.

Conclusions Carriage of TM6SF2 rs58542926 is an additional risk factor for the development of HCC in people with alcohol-related cirrhosis. Carriage of both PNPLA3 rs738409 and TM6SF2 rs58542926 accounts for half of the attributable risk for HCC in this population. Genotyping will allow for more precise HCC risk stratification of patients with alcohol-related cirrhosis, and genotype-guided screening algorithms would optimise patient care.

OWE-017 SURVEILLANCE FOR HEPATOCELLULAR CARCINOMA: DOES IT IMPROVE OUTCOME?

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Introduction Surveillance for hepatocellular carcinoma (HCC) is recommended by national and international guidelines. However, there are limited data on the impact of surveillance on clinical outcome. Our aim was to compare the stage of disease at diagnosis, treatment employed and survival, among those patients complying with, not complying with, or never entered into, a surveillance programme over a 7 year period at our regional centre.

Methods We analysed data from our prospectively collected regional HCC MDT database on patients diagnosed with HCC from January 2009 to December 2015. Demographics, Child Pugh score and Barcelona-Clinic Liver Cancer (BCLC) stage at diagnosis were collated, as were the treatment strategy employed and survival. We compared the stage of disease, treatment undertaken and survival across 3 pre-identified groups:

1. Compliant with surveillance (enrolled in surveillance and last ultrasound (US) <9 months of diagnosis of HCC);
2. Poorly-compliant with surveillance (enrolled in surveillance but last US >9 months);
3. Never enrolled into a surveillance programme.

Kaplan-Meier, log rank analysis and chi-squared tests were used as appropriate. **Results** 641 patients were diagnosed with HCC over this period. Follow up data was available for 638 (99.5%) patients with mean follow-up 15 months. Mean age at diagnosis was 69 years and 82.3% were male. HCC diagnoses increased from 62 in 2009, to 143 in 2015. 52.8% of patients had alcoholic liver diseases, 16.8% NAFLD and 15.4% hepatitis C. 160 (25.1%) patients were from Group 1, 54 (8.5%) from group 2 and 424 (66.5%) from group 3. There was an increase in the proportion of patients with HCC who were diagnosed in a surveillance programme during the study period ($p<0.01$). BCLC classification 0/A (very early stage) was seen at diagnosis in 38.8% patients in group 1, 16.7% in group 2, and 9.7% in group 3 ($p<0.001$). Treatment with curative-intent was given to 32.5% patients in group 1, 14.8% in group 2 and 7.8% in group 3 ($p<0.001$). Mean survival of patients from groups 1, 2 and 3 was 32 months, 14 months and 15 months respectively ($p<0.001$).

Conclusions The annual number of patients diagnosed with HCC at our regional Centre increased by over 100% during the 7 year study period. A minority of patients diagnosed with HCC were enrolled in a surveillance programme, although the proportion increased over time. HCC Patients enrolled in a surveillance programme had lower BCLC stage at diagnosis, were more likely to receive curative treatment and had improved survival.