

**Patients** 35 CH-C genotype 1 patients (23 males, median age 37 years) treated with Peg-IFN/ribavirin were divided in two groups: 18 responders (SVR), 17 non-SVR (nine non-responders and eight relapsers).

**Methods** rs12979860 and rs8099917 were tested by direct sequencing. Baseline numbers of NK cells (CD3<sup>-</sup>CD56<sup>+</sup>), their subsets CD56<sup>dim</sup>/CD56<sup>bright</sup>, CD3<sup>-</sup>CD56<sup>+</sup>CD16<sup>+</sup>, and expression of NK cells activation/inhibition (NKG2D/NKG2A) markers were investigated by flowcytometry on peripheral blood mononuclear cells (PBMC). PBMC IFN- $\gamma$ /IL-10 production after exposure to HCV antigens was evaluated by intracellular cytokine staining. Results are presented as medians.

**Results** Rs12979860 genotype CC was more frequent in SVR than non-SVR (85% vs 15%), while non-CC genotypes (CT/TT) were present in 32% SVR vs 68% non-SVR. 75% SVR had TT genotype for rs 8099917 vs 25% non-SVR and non-TT genotypes (GT/GG) were more frequent in non-SVR than SVR (80% vs 20%, all pbright subset was higher in SVR than non-SVR (6.4% vs 2.9%, p=0.03). CD3<sup>-</sup>CD56<sup>-</sup>CD16<sup>+</sup> cells subset was more frequent in non-SVR than SVR (11.4% vs 8.6%, p=0.05). The proportion of CD56<sup>dim</sup><sup>+</sup>/NKG2D<sup>+</sup> cells was higher in SVR than non-SVR (47.1% vs 36.3%, p=0.04). While number of CD4<sup>+</sup> HCV core-specific IFN- $\gamma$  producing cells was similar in all groups, the frequency of HCV core-specific CD4<sup>+</sup> cells producing IL-10 was higher in non-SVR than SVR (4.3% vs 1.8%, p=0.05). Comparing patients according to rs12979860 CC vs no CC genotypes, CC genotype patients had more CD56<sup>bright</sup> cells (6.6% vs 3.1%, p=0.04), fewer CD3<sup>-</sup>CD56<sup>-</sup>CD16<sup>+</sup> NK cells (8.7% vs 11.1%, p=0.05) and fewer HCV-core specific CD4<sup>+</sup>/IL-10<sup>+</sup> cells (1.9% vs 4.2%, p=0.05). There were no associations between rs8099917 genotypes TT vs no TT and innate or adaptive immune responses in this cohort.

**Conclusion** High numbers of CD56<sup>bright</sup> NK cells, low numbers of unconventional CD3<sup>-</sup>CD56<sup>-</sup>CD16<sup>+</sup> NK cells, and low HCV-specific IL-10 production at baseline are associated with IL28B gene SNP rs12979860 CC genotype and successful antiviral treatment of CH-C genotype 1.

**Competing interests** None declared.

### PMO-159 ETHNIC ORIGIN AND VARIATION IN OUTCOME IN PATIENTS WITH HEPATOCELLULAR CARCINOMA AND HEPATITIS B INFECTION

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**Introduction** Hepatocellular carcinoma (HCC) is a major cause cancer-related mortality, world wide. In particular, HCC is associated with chronic hepatitis B infection (CHB) in Africa and South East Asia. Most published data relating to the natural history of CHB and HCC originates from South East Asia; however due to differences in HBV genotype and potential environmental and genetic factors, it is not clear whether this data are applicable to the African population. Therefore, to explore this issue we have compared the characteristics and outcomes of patients with CHB and HCC according to ethnic origin.

**Methods** Patients with HCC complicating CHB, managed at King's College Hospital London, were identified from our clinic databases. Demographic information, laboratory parameters, initial tumour staging and outcome data, including HBe-antigen status, viral load and genotype, were collated where available. Comparison was performed between Black patients and patients of South East Asian origin.

**Results** In total, 295 patients with HCC and CHB were identified. Median age at the diagnosis of tumour was 37 years and 85% of patients were male. Ethnicity was classified as Black in 27% of patients and South East Asian in 21% of these patients. Cirrhosis was present in 81% whereas 8% were non-cirrhotic at diagnosis of HCC; data were unavailable in the remaining 11% of patients. 18% were HBe-antigen positive and 7% hepatitis C antibody positive. The distribution of HBV genotypes varied according to ethnic group, with genotypes A and E restricted to Black patients and genotypes B and C to South East Asian patients. On comparing these two groups, there were no differences in gender, the presence of cirrhosis, co-factors for liver disease, laboratory parameters or tumour stage, as assessed by the BCLC staging system. However, Black patients were significantly younger (median age: 44 vs 61 years, p<0.001). Although not significant, there was a trend towards a greater frequency of HBe-antigen positivity in the Black patients. No difference in viral load was observed. There was an increased probability of death within the follow-up period in the Black group (66% vs 39%, p=0.004). Comparison of Kaplan–Meier survival curves for the two groups demonstrated decreased survival following diagnosis of HCC in the Black group (log rank: p=0.31).

**Conclusion** In our cohort, we have observed that Black patients present at a younger age and have poorer length of survival in comparison to South East Asian patients. This may represent a more aggressive HCC phenotype that is associated with HBV genotypes A and E although there are potentially multiple confounding factors. Further research is required to determine the cause of this apparent inequality.

**Competing interests** None declared.

### PMO-160 LIVER TRANSPLANTATION FOR CHRONIC HEPATITIS C IN NORTHERN IRELAND

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**Introduction** Chronic hepatitis C (CHC) is a leading cause of chronic liver disease in the UK. Orthotopic liver transplantation (OLT) is commonly used for end stage cirrhosis or hepatocellular cancer secondary to CHC. Unfortunately recurrence of CHC in the graft of transplant recipients is almost universal, often leading to accelerated liver damage. Our aim was to assess the outcome of patients attending a Regional Liver Unit in Northern Ireland who underwent OLT for liver disease due to CHC.

**Methods** A retrospective study was carried out of patients from Northern Ireland who had OLT between 1998 and 2010 for CHC associated chronic liver disease. Cases were identified by review of the regional OLT database and cross-referenced with the centre where OLT was carried out (KCH, London).

**Results** Sixteen patients (11 male) underwent 20 OLTs for CHC between April 1998 and December 2010 (<10% of all OLTs). Mean age was 54 years. 13 patients had single OLT and 3 required multiple transplants. The HCV genotypes were 1 (7), 3 (5) and 2 (4). Prior to OLT, 10 patients received antiviral therapy—all failed (five non-responders, two relapsed following treatment and three failed to tolerate treatment). Data were only available on 19 OLT episodes. Immunosuppressant maintenance therapy was as follows: tacrolimus (9), tacrolimus + mycophenolate (4), cyclosporine (1) and mycophenolate + prednisolone (1). Short-term complications included acute cellular rejection in 5 (26.3%) requiring pulsed methylprednisolone (4) or IL2 blockade (1). Two patients developed