genetic mutations of SLC40A1 gene, and has autosomal dominant transmission. We describe here 3 siblings with typical features.

Methods All cases had evaluation of liver function, serum iron markers and relevant molecular genotyping. One case (male) had liver MRI scan and two cases (female) had liver biopsy.

Results Median age was 41. None of them had other risk factors for liver disease. All had normal liver biochemistry, with elevated ferritin levels >1500 μg/l and transferrin saturations consistently below 40%. Liver MRI scan suggested iron deposition. Liver biopsies showed normal architecture with iron deposition mainly restricted to Kuppfer cells with no hepatocellular damage. Molecular genotyping identified SLC40A1 gene mutation in all cases. The male underwent four venesections which were poorly tolerated and have been suspended, while the females accepted an expectant approach.

Conclusion These cases illustrate features of classical ferroportin disease, with hyperferritinemia, normal transferrin saturation and Kuppfer cells iron loading with no evidence of hepatocyte injury. The natural history of this phenotype is unclear thus require long term follow-up. However, other mutations with a greater likelihood of causing liver injury have been described.

Competing interests None declared.

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PWE-281 DIFFERENT EFFECTOR T CELL RESPONSES MAY ACCOUNT FOR DIFFERENT PATTERNS OF LIVER INJURY IN CHILDHOOD AUTOIMMUNE LIVER DISEASE

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Introduction Two childhood autoimmune liver diseases are recognised: "classical" autoimmune hepatitis (AIH) and AIH-sclerosing cholangitis overlap syndrome (also termed as autoimmune sclerosing cholangitis, ASC). ASC is characterised by ANA and/or SMA seropositivity, hypergammaglobulinaemia and interface hepatitis—all features typical of "classical" AIH—in conjunction with bile duct destruction. Previous studies showed that regulatory T-cells, a subset essential for immune-tolerance maintenance, are defective in both conditions. Whether different CD4 and CD8 effector T-cell responses account for the clinical spectrum of childhood autoimmune liver disease is unknown. Aims: to evaluate the frequency and phenotype of CD4 and CD8 T-cells in patients with AIH and ASC.

Methods 6 patients with AIH, six patients with ASC, and six healthy subjects (HS) were studied. The frequency and phenotype of T-cells was evaluated by cytofluorimetry using monoclonal antibodies against CD3, CD4 and CD8. Expression of T-bet, RORC, IFN-g and IL-17 was determined by intracellular staining.

Results The frequency of $CD4^{pos}$cells within total lymphocytes was lower in ASC (36.5±3.6), compared to AIH (47.2±2.7, p=0.04) and HS (46.8±2.1, p=0.04). Conversely, ASC patients displayed higher percentage of $CD8^{pos}$cells (31.8±2) than in AIH (21.8±2.5, p=0.01) and HS (22.9±1.3, p=0.03), therefore exhibiting a lower CD4:CD8 compared to AIH and HS. Within $CD4^{pos}$T-cells: (a) T-bet^{pos} and IFN-g^{pos}cells were higher both in AIH and ASC compared to HS (T-bet: p=0.01 for AIH, p=0.05 for ASC; IFN-g: p=0.02 for AIH, p=0.03 for ASC); (b) $RORC^{pos}$ and IL-17^{pos}cells were more frequent in ASC than in AIH (RORC: p=0.001; IL-17: p=0.02). Within CD8-T cells: (a) IFN-g-producing cells were higher in AIH and ASC than HS (p=0.004 for AIH, p=0.08 for ASC); b) IL-17-producing cells were higher in ASC compared to AIH (p=0.05). In ASC, frequency of $CD4^{pos}$ and $CD8^{pos}$IL-17^{pos}cells correlated with γ-glutamyl-transpeptidase (R=0.90, p=0.01 for CD4; R=0.84, p=0.04 for CD8), and with alkaline phosphatase levels (R=0.75, p=0.09 for CD4; R=0.80, p=0.06 for CD8).

Conclusion Both AIH and ASC are associated with an increase of IFN-g-producing cells. Compared to AIH, ASC patients have more CD8 T-cells, and higher number of IL-17-producing T-cells. The correlation with cholestatic biochemical abnormalities suggests that IL-17 is involved in bile duct involvement characteristic of ASC.

Competing interests None declared.

PWE-282 THE ROLE OF α-FETOPROTEIN IN HEPATOCELLULAR CARCINOMA SURVEILLANCE

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Introduction The most efficient and cost-effective programme for HCC surveillance is the subject of ongoing debate. Current UK standard practice for HCC surveillance in high risk populations consists of 6 monthly ultrasound (US) and α-fetoprotein (AFP) measurement. However, the most recent international guidelines on HCC surveillance (AASLD) state that US alone is the most appropriate means of HCC surveillance.[1 2] To investigate the relative contributions of US and AFP to HCC surveillance we have performed a retrospective analysis of the records of consecutive cases of newly diagnosed HCC within two patient cohorts.

Methods We retrospectively reviewed the electronic records of: (1) All 78 patients diagnosed with HCC in NHS Lothian between 1 January 2010 and 30 September 2011. (2) All 46 patients referred to the Scottish Liver Transplant Unit (SLTU) with HCC for liver transplant assessment from 1 January 2010 to 31 August 2011. Demographic details, mode of HCC detection and patient outcomes were recorded. Patients were identified as undergoing HCC surveillance if they were having 6 monthly US and AFP measurements. An elevated AFP was defined as >6 kU/l.

Results 36% (28/78) of the patients diagnosed with HCC in NHS Lothian were diagnosed through HCC surveillance. Of these 28 patients 39% (11/28) had the suspicion of HCC raised by AFP alone, 32% (9/28) were detected by both AFP and US and only 25% (7/28) were detected by US alone. 1 HCC was detected by CT scan. The overall sensitivity of AFP for detecting HCC in the surveillance group was 71% (20/28). 84% (36/43) of the SLTU cohort were diagnosed through regular HCC surveillance. 33% (12/36) by AFP alone, 25% (9/36) by US alone and 42% (15/36) by both AFP and US. 69% (25/36) had a raised AFP at HCC diagnosis. 76% (19/25) of patients with a raised AFP at diagnosis were offered potentially curative treatment.

Conclusion In conclusion our data does not support the current AASLD guidelines stating US alone should be used for HCC surveillance. In both patient cohorts over a third of HCC cases detected through surveillance were identified by a rising AFP alone. Our results indicate AFP is therefore an important and effective addition to US. Additional refinement of how AFP levels are interpreted, in particular progressive rises in AFP, may enable increased sensitivity and specificity and further improve the efficacy of HCC surveillance.

Competing interests None declared.

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