whether patients reported to have fatty liver on USS, irrespective of clinical indication, were adequately assessed by testing of liver function tests (LFTs) and if abnormal, subsequently referred to a specialist clinic.

**Methods** A single centre, retrospective analysis of all patients who underwent USS over a 5-month period (January–May 2011) at Chase Farm Hospital was performed. Patients who had LFTs within 8 weeks of USS were said to have had their LFTs checked appropriately. Data were obtained from radiology reports via PACS/EPR reporting systems.

**Results** 258 patients were investigated over the audit period. 69 (26.7%) patients (42 male, 27 female), median age 58 years (25–91 years) were reported to have fatty liver on ultrasound. 52 (75.3%) of these patients had their LFTs checked of which 37 (71.2%) were abnormal. 12 (17.3%) patients with fatty liver on ultrasound were formally seen in a specialist clinic. Of half of patients (27, 51.9%) with fatty liver and abnormal LFTs were never seen in a specialist clinic.

**Conclusion** A quarter of patients with USS diagnosis of fatty liver did not have their LFTs checked potentially missing an opportunity to monitor for complications of NAFLD. While only the tip of the iceberg of NAFLD patients are referred to secondary care, a large portion of the iceberg goes unnoticed even on surfacing. An increased awareness of NAFLD needs to relayed to all healthcare professionals including radiologists and general practitioners coming into contact with this “iceberg.”

**Competing interests** None declared.

---

**PWE-294** MICROPARTICLE DEPENDENT PROCOAGULANT ACTIVITY AND THROMBIN GENERATION IS INCREASED IN PATIENTS WITH CIRRHOSIS INDUCED COAGULOPATHY

doi:10.1136/gutjnl-2012-302514d.294

1V Jairath,* 2P Harrison, 3S Stanworth, 1J Collier, 1M Murphy, 1E Barnes. 1John Radcliffe Hospital, Oxford, UK; 2Oxford Haemophilia and Thrombosis centre, Oxford, UK; 3NHS Blood and Transplant, Oxford, UK

**Introduction** Recent data suggests stable cirrhosis may have a hypercoagulable phenotype. Microparticles (MPs) are submicron plasma particles formed by the exocytic budding of cell membranes and play an important role in haemostasis due to phosphatidylserine (PS) surface expression which provides a phospholipid surface for assembly of coagulation enzymes and/or the expression of tissue factor (TF), the primary initiator of coagulation. To determine whether MPs may contribute to this hypercoagulable phenotype, we assessed microparticle associated functional procoagulant and phenotypic characteristics in cirrhosis.

**Methods** 72 consecutive cirrhotics and 30 healthy volunteers were recruited. Platelet free plasma (PFP) was prepared by two centrifugations and MP-free plasma (MP-FP) by recruiting. Platelet free plasma (PFP) was prepared by washing the platelets out of plasma. Microparticle dependent procoagulant activity and thrombin generation (TG) were measured using the STA Procoag PPL assay (Stago Diagnostics) and STA Thrombin generation (TG) was measured using the calibrated automated thrombogram (CAT). For the CAT assay TG was initiated by adding CaCl\(_2\) and 1-pi/s tissue factor, but no phospholipid (PRP reagent), therefore TG was dependent upon phospholipid present in the sample. Flow cytometry (LSRII) was used to determine MP size, number and cellular origin using marker specific antibodies.

**Results** FFP from cirrhotics generated significantly more thrombin than healthy volunteers reflected in the ETP (1574.5 vs 1142.6 nM/ min, p = 0.04), the peak (1010.1 vs 665.6 nM, p = 0.001) and a shorter time to peak (13.0 vs 14.2 min, p = 0.03). Similarly, MP associated thrombin generation (TG) was significantly increased in cirrhosis (65.9 ± 13.2 s), compared to healthy volunteers (74.6 ± 13.9 s, p = 0.005). Following filtration of MPs >200 nM in size, there was a large reduction in ETP and peak in both cirrhotics and healthy volunteers, with prolongation of both the time to peak and PPL time. There was significant inverse correlation between the PPL assay and parameters of the TG test [ETP (r = −0.57, p < 0.001), Peak (r = −0.43, p < 0.001)]. Cirrhotic patients had high levels of Annexin V binding PS positive MPs compared to controls (1412 vs 279 per u/l, p < 0.05).

**Conclusion** Microparticle dependent procoagulant activity and thrombin generating capacity is increased in plasma from cirrhotics. High levels of annexin-V positive procoagulant MPs are a likely key and previously undescribed mechanism contributing to the hypercoagulable phenotype observed in cirrhotics.

**Competing interests** None declared.