# Liver II

## PWE-123 UNDERGRADUATE UNDERSTANDING OF IDENTIFICATION AND BRIEF ADVICE FOR ALCOHOL DISORDERS

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**Introduction** The number of deaths in England due to liver disease is rising. The North West has the highest rate of alcohol related deaths for men and women.[1] Brief interventions can reduce harmful drinking[2] and therefore have the potential to contribute to reducing the burden of liver disease.

There is a recognition that all health professionals must strive to detect risk factors for liver disease and intervene early to manage them. [3]

Do the next generation of doctors know this?

**Methods** A short survey was completed by 100 Manchester medical students in clinical placements to assess their knowledge of identification and brief advice (IBA), its effectiveness in comparison to smoking cessation advice and their knowledge of which particular patients benefit most from its use.

**Results** 96% of the students involved in the survey had not heard of IBA.

Once IBA was explained 21.1% thought that it would be less effective than smoking cessation advice.

Only 47% of the students correctly thought that increasing risk drinkers were the group that would benefit most rather than higher risk or dependent drinkers.

**Conclusion** The vast majority of the students involved in the survey were not aware of IBA. A significant number underestimated its impact and there was confusion about which patients would benefit.

This is despite the students all being in clinical placements in the North West of England

The unfamiliarity of these students to IBA may well be a reflection of its limited use in day to day practice by their supervising clinicians.

Despite the recognition of its importance there may be a long way to go in making identification and brief advice routine practice for our future doctors.

### REFERENCES

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**Disclosure of Interest** None Declared.

## PWE-124 UNDERSTANDING THE MECHANISMS UNDERPINNING TREATMENT NON-RESPONSE IN PRIMARY BILIARY CIRRHOSIS: A TOOL FOR TREATMENT STRATIFICATION

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**Introduction** The pathogenesis of Primary Biliary Cirrhosis (PBC) is poorly understood. The Th1 $CD4^+$ cell subset has known involvement, however, the Th17 subset demonstrated in autoimmune disease requires further investigation. Ursodeoxycholic acid (UDCA) is the primary treatment and response is measured by liver biochemistry change; suboptimal improvement (non-response) has a poorer prognosis and there remains a lack of effective second-line therapies.

This study aimed to pilot transcriptional investigation of T-cells in PBC, including UDCA response stratification and Th17 polarisation, following recent revelation of demographic associations with non-response.

**Methods** Affymetrix® GeneChip® Microarray analysis examined the gene expression differences of $CD4^+$ T-cells isolated from PBC responders (n = 3), non-responders (n = 4) and healthy controls (n = 3). The samples studied were taken at baseline and after culture with anti-CD3/28 beads +/- Th17 polarising cytokines.

**Results** 900 genes were significantly differentially expressed with >2 fold change in patients versus healthy controls and 113 genes in responsive versus non-responsive groups at baseline. Study of CD3/28 activated cells +/-Th17 polarisation revealed no significant differences. In PBC patients, features up-regulated included CD69 (adjusted $p < 0.00005$) and those down-regulated HLA class II transcripts ($p < 0.05$).

**Conclusion** Despite a small cohort, for the first time using microarray, this project demonstrated differences between PBC patients and healthy individuals and, importantly, between UDCA response groups. This substantiates the view that UDCA non-responsive disease represents a distinct biological entity requiring different clinical management. Up-regulation of the activation marker CD69 implies ongoing T-cell stimulation in PBC. HLA class II transcript down-regulation may imply a role in T cell anergy or regulation.

**Disclosure of Interest** None Declared.

## PWE-125 RIFAXIMIN TREATMENT IN HEPATIC ENCEPHALOPATHY (HE) -– MARKED REDUCTION IN HOSPITAL ADMISSIONS AND HOSPITAL BED DAY OCCUPANCY IN A DISTRICT GENERAL HOSPITAL

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**Introduction** Rifaximin is a minimally absorbed, gut-selective antibiotic, which is safe and effective in the prevention and treatment of Hepatic Encephalopathy (HE). However, it is expensive and there is debate regarding its cost effectiveness.

**Aim** The present study examines the impact of Rifaximin treatment on hospital admissions and hospital bed day occupancy in patients with recurrent HE, due to chronic liver disease.

**Methods** Medical records of all 30 hospital patients with HE, commenced on Rifaximin between November 2011 and May 2013, in a District General Hospital, were evaluated. Data were collected on patient demographics, MELD scores, number of hospital admissions, bed day occupancy for each admission, and concomitant therapy for HE. We compared the clinical features and diagnoses for the number of, and length of each hospital admission for the 6 months before, and 6 months after, commencing Rifaximin treatment.

**Results** 30 patients with HE (18 men, 12 women), median age 64 (Inter-quartile range (IQR) 51–67), were commenced on Rifaximin. 83% had Alcohol-related liver disease, 10%

NASH and 7% Hepatitis C. Median MELD score was 15.5 (IQR 13.5–21). All patients were prescribed lactulose. Of the 30 patients, 5 died within 6 months of commencing Rifaximin. One patient was discontinued, due to non-compliance. 24 patients were included in the final analysis. We compared the outcomes for the 6 months prior to, and the 6 months after commencing Rifaximin treatment. Median hospital admissions were reduced from 2 admissions (IQR 1–3, Range 1–5) to 1 admission (IQR 0–2, Range 0–4, Wilcoxon $p < 0.05$). Median number of bed days was reduced from 27.5 (IQR 16.0–35.3, Range 2–129) to 2.5 (IQR 0–23.5, Range 0–55, Wilcoxon $p < 0.05$). No patient developed Clostridium difficile-associated diarrhoea in the 6 months after commencing Rifaximin.

**Conclusion** In our hospital, the basic cost of a hospital bed day is £300. A 6 month course of Rifaximin costs £1688. This study demonstrates that Rifaximin treatment in patients with HE, due to chronic liver disease, produced a marked reduction in hospital admissions and hospital bed day occupancy in a District General Hospital, with major cost savings and improved clinical outcomes.

**Disclosure of Interest** None Declared.

## PWE-126 SPONTANEOUS BACTERIAL PERITONITIS (SBP) IS RARE AMONG ROUTINE ELECTIVE DAY-CASE THERAPEUTIC PARACENTESIS: IS ROUTINE FLUID ANALYSIS JUSTIFIED?

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**Introduction** SBP is a serious infection in patients with cirrhosis and is associated with a high risk of mortality. EASL guidelines recommend a diagnostic tap and testing of white cell count on samples for all patients with new onset ascites or those hospitalised with deterioration. Whether this is still necessary in patients undergoing elective paracentesis for diuretic resistant ascites is unknown. We set out to determine the incidence of SBP in a cohort of patients undergoing ascitic tap on an inpatient or elective outpatient basis.

**Methods** We retrospectively analysed data from the Gwent Liver Unit database and compared rates of SBP between those having an ascitic tap during an acute admission and those who underwent paracentesis as an elective day-case. SBP was confirmed by the presence of >250 polymorphs/ml$^3$.

**Results** In total 274 ascitic tap samples were reviewed, 176 from inpatients and 98 following elective paracentesis.

22 episodes of SBP were diagnosed (total incidence 8%).

21 episodes of SBP occurred among inpatients (incidence 12%) and just 1 in elective paracentesis patients (1%). However this individual had a previous SBP but unfortunately did not continue on her secondary antibiotic prophylaxis. Organisms were identified in 9 of 21 (42%) inpatients with SBP (3 E coli, 3 Klebsiella and 3 Streptococci) but none was identified in the only elective outpatient with SBP.

**Conclusion** The incidence of SBP is extremely low among elective outpatients so the recommendation to routinely test for SBP in this cohort is questionable unless clinical features suggest an acute deterioration.

**Disclosure of Interest** None Declared.

## PWE-127 TRENDS IN HOSPITAL ADMISSIONS WITH ALCOHOL RELATED LIVER DISEASE IN SOUTH-EAST ENGLAND

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**Introduction** Morbidity and mortality from alcohol related liver disease (ALD) has increased significantly in England. We aimed to assess the impact of the change in the alcohol licensing law in 2005 on hospital admission as well as morbidity and mortality from ALD.

**Methods** This was a retrospective study between Jan 2006 to Dec 2011. Patients were identified using the ALD code (K70). Our institute is a teaching hospital in South-East England with a referral base of ~300,000 patients. Biochemical, radiological and microbiology data were collected for each patient from computerised records. The reason for hospital presentation, including the length-of-stay (and ITU stay) were collected. The data was analysed using the *t* test.

**Results** During the study period there were a total of 294 admissions due to ALD. Amongst these, 33% presented to hospital with one admission and 67% had more than 1 admission. 69% were men (201/294), 31%(93/294) were women. The median age of the women and men in 2006 and 2007 was 56 and 52 years respectively. However, between 2008–2011, the median age of women presenting was 49 years. There was a rise in the number of admissions related to ALD each year: 40% (116/294) in 2006, 45%(133/294) in 2007, 59%(172/294) in 2008, 59%(171/294) in 2009, 66%(193/294) in 2010 and 68% (201/294) in 2011. Presentation with hyperbilirubinaemia was the most common cause of hospital admission at 72%(211/294), followed by gastrointestinal bleeding at 60%(179/294). Spontaneous bacterial peritonitis contributed to 22%(66/294) of admissions. 17%(51/294) had gram-negative and 6%(17/294) presented with gram-positive sepsis, whereas 15%(46/294) had infection of unknown origin. 28%(82/294) warranted ITU admission for organ support. The overall in-hospital mortality was 33%(96/294). The MELD in patients who died was 25 ± 0.9 vs 16.94 ± 0.2 in those that survived ($p < 0.0001$) each year. The percentage of failing organs each year is shown in the table below.

**Conclusion** A rise in the number of admissions and re-admissions with ALD in particular with acute on chronic liver failure is a major burden on health services. It is associated with high mortality and with multi-organ failure. Increasing awareness of alcohol as a health hazard needs to be a public health priority. Early recognition of acute on chronic liver failure and timely intervention to prevent its progression is required.

**Disclosure of Interest** None Declared.

**Abstract PWE-127 Table 1**

| | 3 organs | 2 organs | 1 organ | none |
|---|---|---|---|---|
| 2006 | 13/120 (10%) | 9/120 (7.5%) | 83/120 69%) | 15/120 (12.5%) |
| 2007 | 15/125 (12%) | 15/125 (12%) | 73/125 (58.4%) | 22/125 (18.3%) |
| 2008 | | | | |
| 2009 | 12/131 (9.2%) | 24/131 (18%) | 79/131 (60%) | 15/131 (11.5%) |
| 2010 | | | | |
| 2011 | 9/114 (8%) | 19/114 (17%) | 64/114 (56%) | 22/114 (19%) |