We sought to define the: 1) risk of immunogenicity to a second anti-TNF stratified by immunogenicity to first anti-TNF, 2) rates of drug persistence following failure to first anti-TNF drug and 3) strategies to mitigate development of immunogenicity.

Methods We performed a retrospective cohort study across 38 UK hospitals. 1058 patients [532 (51%) male, 755 (71%) Crohn's disease] had both infliximab and adalimumab therapeutic drug monitoring performed by our service from May 2013 to October 2020 were identified. Drug and antibody levels were measured using the IDKmonitor® drug-tolerant ELISA assays. Treatment failure included primary nonresponse, secondary loss of response, adverse drug reactions and IBD-related surgery, and patients were identified by case note review. Immunogenic failure was defined as treatment failure with suboptimal drug levels (infliximab level <2 mg/L, adalimumab level <6 mg/L) with an antibody concentration ≥ 10 AU/ml. Pharmacodynamic (PD) failure was defined as treatment failure despite adequate drug levels.

Results Patients who developed immunogenicity to adalimumab (first) were more likely to develop immunogenicity to infliximab (second) (64% vs 40%, $p < 0.001$), and patients who developed immunogenicity to infliximab (first) were more likely to develop immunogenicity to adalimumab (second) (34% vs 20%, $p = 0.002$). Patients who developed: antibodies and undetectable drug, low drug levels, or low drug levels with immunogenicity to infliximab (first), were more likely to develop these outcomes to adalimumab (second) (all $p < 0.001$).

There was no difference in drug persistence to second anti-TNF in patients with pharmacodynamic and immunogenic treatment failure to first anti-TNF ($p = 0.86$). In patients with immunogenic (but not pharmacodynamic) failure, commencing an immunomodulator at the time of switching to second anti-TNF drug was associated with longer drug persistence than in patients treated with an immunomodulator throughout or not at all (Figure 1).

Abstract HMO-4 Figure 1 Drug persistence to second anti-TNF in patients stratified by immunomodulator use

Conclusions Immunogenicity to the first anti-TNF was associated with immunogenicity to the second anti-TNF, irrespective of drug sequence. Commencing an immunomodulator at the time of switching to second anti-TNF was associated with improved drug persistence in immunogenic, but not pharmacodynamic, failure. However, 50% of patients remained on second anti-TNF at 5 years in both groups, suggesting switching in-class may be appropriate, irrespective of the cause of treatment failure to first anti-TNF.

HMO-5 ASSOCIATION OF ANTI-INFLIXIMAB ANTIBODIES AND HLA-DQA1*05 VARIANT IN ULCERATIVE COLITIS: A RETROSPECTIVE SINGLE CENTRE STUDY

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Introduction The genetic variation HLA-DQA1*05 has been reported to be associated with anti-Infliximab antibody in CD. The relevance in UC patients receiving infliximab is uncertain.

Aim To evaluate the association of HLA-DQA1*05 and infliximab antibody formation, treatment changes and infliximab persistence in a real world setting of single centre cohort

Methods Infliximab treated UC patients (n=94) were retrospectively screened for HLA-DQA1*05. The risk of anti-infliximab antibody formation, absent drug levels in presence of antibody, change in therapy from infliximab were assessed in variant carrying patients in comparison to those without the variants. The proportion of patients needing dose optimisation of infliximab also evaluated.

Results Anti-infliximab antibodies were detected in 41.5% of patients in a median follow up of 14.75 (IQR 9-29) months. HLA-DQA1*05 was positive in 39.13% of patients. 52.2% of patients were on concomitant immunomodulators. Higher proportion of patients with HLA-DQA1*05 developed anti-Infliximab antibodies (59% Vs 24%, $p=0.002$). Eighty per cent of patients who had anti Infliximab antibodies with

Abstract HMO-5 Figure 1 Antibody formation in infliximab treated patients

Abstract HMO-5 Figure 2 Infliximab persistence

absent drug levels were positive for HLA-DQA1*05 with Hazzard Ratio (HR) for development of anti-Infliximab antibodies of 4.54 (95% CI 1.73-11.89) and for antibodies with absent infliximab drug levels 9.86 (95% CI 2.43 -40.01). Higher proportion of HLA-DQA1*05 patients required dose escalation (78% vs 31%, $p=0.001$). After adjusting for age, initial infliximab dose and concomitant immunomodulator use, there was no difference anti TNF persistence in patients with HLA-DQA1*05 variant (HR 2.36, 95% CI 0.89-6.25, $p=0.06$).

Conclusions Determination of HLA-DQA1*05 status may identify patients at higher risk of anti-infliximab antibodies in ulcerative colitis. Early intervention with dose optimisation and concomitant immunomodulation may avoid loss of response and facilitate treatment persistence.

Liver

HWE-1 LONG-TERM OUTCOME FROM ALCOHOLIC HEPATITIS: SURVIVAL, READMISSION RATES AND ATTENDANCE AT OUT-PATIENT CLINICS

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Introduction Alcoholic hepatitis (AH) is recognised for its acute presentation and high short-term mortality. Relatively few studies have looked at the longer term outcome of AH patients, although achievement of abstinence from alcohol is associated with better survival. The aim of this study was to review the long-term outcome of patients with AH and in particular note their subsequent use of medical services.

Methods All patients recruited to the STOPAH trial from hospitals within NHS Greater Glasgow and Clyde (NHS GGC) were assessed. They were recruited between March 2011 and February 2014. Hospital admissions in the 2 years prior to admission were noted and for those who survived their STOPAH admission, subsequent gastroenterology/hepatology out-patient clinic (OPC) and in-patient episodes were recorded. Kaplan-Meier, Spearman's correlation and Odds Ratio analyses were undertaken: results are presented as medians and 95% confidence intervals. Censorship was until 1/10/2020 for survivors.

Results 140 patients were recruited to STOPAH from NHS GGC; with a median follow-up of 667 days (390 -1195) until censorship or death, survival was 22%. 108 (77%) survived their index STOPAH admission. 89 patients with no liver-related admissions in the 2 years prior to their index STOPAH admission had a hospital survival of 73%; the hospital survival of those with previous liver-related admissions was 84% ($p=0.16$). For 106 survivors of the index STOPAH admission for whom information was available, the median follow-up until censorship was 1261 days (823-1883). Their survival was 28%, with 20% survival for those with a prior liver-related admission and 34% for those with no such admission in the preceding 2 years ($p=0.057$). 92% of index admission survivors had a further hospital admission and of these 64% had a liver-related reason for first readmission. Median time to readmission after discharge was 101.5 days (56-161) and median number of subsequent admissions was

Abstract HWE-1 Figure 1

4.5 (4-5). 59% of readmitted patients did so prior to an OPC consultation. There were records of OPC appointments offered to 92 patients (87% of survivors): 79 patients attended at least one OPC appointment, the first being a median of 86 days (68-108) after discharge. The median attendance rate at OPCs was 70% (51-79%). Correspondence from the first OPC after index admission indicated no alcohol use in 56%, continued alcohol use in 24% and no record of alcohol intake in 20%. Those attending $\leq 50\%$ OPC appointments had a lower survival (19%) compared with those attending $>50\%$ (38%; $p=0.02$; Figure 1). There was a correlation between time to first OPC appointment and subsequent attendance rate with those attending sooner after discharge more likely to attend ($\rho = -0.367$; $p=0.0009$).

Conclusions With long-term follow-up, less than a quarter of patients with AH survive. Most patients were readmitted prior to an OPC consultation, but those who did attend $>50\%$ of offered OPCs had a better outcome. Documentation of alcohol use at OPC review was inadequate in a fifth of cases. Prompt and more assertive OPC follow-up might benefit this cohort of patients to improve long-term survival.

HWE-2 RECIDIVISM POST LIVER TRANSPLANTATION: A 7 YEAR FOLLOW UP

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Liver transplantation offers patients with end stage liver disease the prospect of significantly improved mortality and quality of life (Poynard et al., 1999). Alcohol related liver disease (ALD) has become a widely accepted indication for liver transplant, and outcomes compare favourably against transplant for non-alcohol related liver disease (Neuberger et al., 1997). However, concerns exist regarding the risk and implications of alcohol recidivism post-transplant (Neuberger et al., 1998).

The purpose of this study was to assess post-transplant outcomes of all patients transplanted for ALD since the inception of the Scottish Liver Transplant Unit, particularly identifying the rate and risk factors for recidivism within this cohort.

A retrospective case-note review was carried out of all patients transplanted between 1st November 1992 and 31st