severe and often persisted for >35 days. FCM, but not IIM, induced changes in vitD and calcium homeostasis that triggered secondary hyperparathyroidism, which likely contributed to persistence of hypophosphatemia. Alteration of bone metabolism after FCM administration may be of great clinical significance particularly for IBD patients who often have low vit D and regularly receive iv iron.

### PTH-138 COLORECTAL CANCER, COLECTOMY AND INFLAMMATORY BOWEL DISEASE ACTIVITY FOLLOWING LIVER TRANSPLANTATION IN PRIMARY SCLEROSING CHOLANGITIS

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#### Introduction

Primary sclerosing cholangitis (PSC) is the classical hepatobiliary manifestation of inflammatory bowel disease (IBD) for which liver transplantation (LT) is the only curative therapy. In this study, we provide pooled incidence rates (IR) and time trends of (1) colorectal cancer (CRC), (2) flares in IBD activity and (3) colectomy rates post LT, through systematic review and meta-analysis.

#### Methods

A systematic literature search of Medline and Embase was undertaken to identify pertinent studies from 1981 to 2014. Included studies were assigned to one or more of the three analytical streams. The ‘meta’ package (R Studio (V.1.1.463)) and Revman was used to pool IRs and HRs from individual studies using a random effects model respectively.

#### Results

42 studies qualified for inclusion in the systematic review, 20 studies detailing the clinical course of 1994 patients (cumulative 9874 patient years (PY)) were pooled to assess the occurrence of dysplasia or CRC (combined endpoint) and CRC only; yielding an IR of 14.97 (95% CI 9.74 – 23.02) per 1000 PY, respectively. Heterogeneity was considerable ($I^2 = 86\%$). The incidence of post LT CRC was seen to be decreasing over the past decade (figure 1A). The estimated colectomy rate following OLT was IR 23.18 (95% CI 21.07–25.38) per 1000 PY. IR for colectomy due to dysplasia/CRC was 11.26 per 1000 PY (95% CI 9.19–13.05) and decreasing over time (figure 1B). By contrast, deterioration in IBD activity necessitating colectomy was noted for IR 13.26 per 1000 PY (95% CI 12.11–14.57) with no change in the incidence rate over study duration (figure 1C). 9 studies reported on post LT clinical course of IBD according to endoscopy findings or need for escalation in IBD therapy. 27.6% of patients (n = 584) experienced deterioration in IBD activity after LT. The effect of ursodeoxycholic acid (UDCA) on the risk of CRC after LT was examined by 3 studies. Due to data availability, only 2 studies could be pooled. Use of UDCA increased the risk of CRC post LT in the PSC cohort; HR 2.90 (95% CI 1.37–6.11). Studies examining the impact of UDCA on colectomy and IBD activity post-LT were inconclusive.

#### Conclusion

The heightened risk of CRC mandates ongoing colonoscopic surveillance in the PSC/IBD LT population, although the incidence appears to be decreasing. Identification of risk predictors impacting the course of IBD is of critical importance, given that deterioration in activity appears to be the principal indication for colectomy post LT.

### OTH-10 THERAPEUTIC INTERLEUKIN 4 MODULATES MONOCYTE DYNAMICS AND ACCELERATES REPAIR FOLLOWING ACUTE LIVER INJURY

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#### Introduction

Acute liver failure has significant mortality, and in its most severe form, the only treatment is liver transplantation. Cytokine imbalance plays a key role in the pathogenesis of acute liver failure. Therapeutic Interleukin 4 (IL-4) has been shown to be protective in models of acute liver injury. We aimed to determine whether IL-4 alters monocyte dynamics and accelerates hepatic repair following acute liver injury.

#### Methods

Monocyte dynamics were assessed ex vivo by flow cytometry using cell-sorted samples from a randomized pilot trial of IL-4 administration in acute liver failure. Hepatic repair was assessed by flow cytometry of cell-sorted samples from liver biopsies taken from a randomized controlled trial of IL-4 in acute liver failure. The effects of IL-4 administration on monocyte dynamics and hepatic repair were assessed by standardized techniques.