PWE-042 PROFILE BIOMARKER: EFFECT OF STEROID TREATMENT ON A PROGNOSTIC GENE EXPRESSION SIGNATURE

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Background The course of Crohn's disease varies substantially between patients, but reliable prognostic markers are not available in clinical practice. This hinders disease management because patients with aggressive disease are under-treated by 'step-up' therapy, while those with indolent disease are exposed to risks of unnecessary immunosuppression if a 'top-down' approach is used. Previously, we have described a transcriptional signature that is detectable in whole blood at diagnosis, correlating with subsequent disease course. A biomarker-stratified trial in Crohn's disease (PROFILE trial) is currently underway, recruiting 400 newly diagnosed patients from approximately 50 centres in the UK, and stratifying their therapy using this biomarker. Currently, patients need to be off systemic corticosteroids at recruitment, as it is not known whether the results of the test remain reliable while on steroid treatment, which can affect gene expression. If the biomarker results were to be reliable despite systemic corticosteroids, this would enable the test to be used on patients who had already begun steroid therapy and would broaden the clinical utility.

Methods Four separate cohorts of IBD patients were recruited (n=10 per cohort). From each patient a PAXgene RNA tube was collected, along with routine haematology and biochemistry tests, and a stool sample for faecal calprotectin. Detailed clinical phenotyping information was prospectively collected for at least 6 months. The four cohorts comprised: 1) patients admitted with acute severe flares of IBD with sample collection pre-intravenous steroid and at 3 further timepoints on IV steroid medication (day 3, day 5, week 6), 2) patients seen in outpatient clinic with flares of IBD – sample collection pre-oral steroid treatment and at 2 further timepoints on steroid medication (week 1, week 6), 3) recently diagnosed IBD patients (<3 months since diagnosis) who had active inflammation despite ongoing steroid treatment, and 4) patients with established IBD with active inflammation on steroid treatment. RNA was extracted from PAXgene tubes, reverse-transcribed and RT-qPCR performed to detect the prognostic transcriptional signature. If detectable, the subsequent course of disease was assessed and compared between IBD^{hi} and IBD^{lo} groups. This data is currently being finalised and the results will be available at the BSG annual conference.

Conclusions We have developed, optimised and validated a whole blood qPCR classifier that is able to predict disease course from diagnosis in patients with Crohn's disease. This represents a major step towards personalised therapy and is currently being tested in the PROFILE trial, the first biomarker-stratified trial in inflammatory disease. The effect of steroid treatment on this biomarker signature has yet to be determined, but is an important step in order to maximise the clinical utility of this test and possibly widen inclusion of patients into the PROFILE trial.

PWE-043 MANAGING ACUTE SEVERE COLITIS IN A DISTRICT GENERAL HOSPITAL

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Introduction Following a critical incident in the care of a patient with acute severe colitis (ASC) we audited practice against the European Crohn's and Colitis Organisation (ECCO) standards for ASC. Performance was compared to the 2014 Inflammatory Bowel Disease (IBD) Audit. Since 2014 gastroenterology inpatient care changed to consultant of week instead of a single consultant. This improved discharge rates (top 4 in England for acute admission targets) but may have disrupted quality of care for more complex conditions like IBD.

Methods Adult coding database searched for 'colitis' from 01/01/2016–31/10/2017. Admissions<48 hours excluded. Discharge letters were searched for ASC cases and notes then reviewed. Admissions with ASC were audited against the ECCO standards.

Results

- 40 admissions with ASC (30 patients – 2 had 3 and 8 had 2 admissions)
- 17 saw gastroenterologist day 1 (median day 2, range 1–4)
- 39 went to gastro ward
- 32 had abdominal xray on day 1
- 1 had flexi sig day 1, 12 had lower GI scope pre-admission, 18 during admission (median day 3, range 1–11) and 9 had none
- 34 had IV hydrocortisone on day 1 (median day 3, range 1–6)
- 26 had Ca/vit D
- All had low molecular weight heparin (LMWH)
- 14 saw dietician, 33 had MUST scored
- 24 saw IBD nurse
- 13 saw stoma nurse
- 6 saw surgeon on day 1 (median day 2, range 1–14) and 15 did not get referred
- 10 required surgery – 7 done by a colorectal surgeon (6 laparoscopically, 4 open)
- Median surgery day 9 (range 2 – 23 from admission)
- 1 on biologic pre-admission
- 2 had surgery on readmission
- 3 based on clinical features
- 3 not responded to biologic
- 1 not clear
- Biologics given to 10 patients – 2 day 3, 1 day 4, 6 day 5 and 1 day 6 (2:8 between adalimumab:infliximab). No ciclosporin. 90% did not need surgery.

Conclusion In 2014 our trust data showed we performed on par with National audit.

In 2017 we were equivalent to or outperformed the National figures for:

- Care on a specialist ward (98% vs 69%)
- Nutritional assessment (80% vs 82%)
- Dietician review (45% v 40%)
- Prescribing LMWH (100%)
- IBD nurse review (60% vs 66%)