25 (23%) IBD nurse specialists and 5 (5%) gastroenterology pharmacists, and were used for analysis.

Over half (61, 55%) only carry out TDM in non-response. The remainder use TDM routinely, during stable maintenance therapy for patients in remission. Only 15 (14%) respondents reported being clear and confident in their understanding of the difference between drug-sensitive and drug-tolerant assays. Moreover, most (82, 75%) were unsure as to which type their laboratory uses. Lower therapeutic thresholds used by clinicians were variable (figure 1).

Consultants, high-frequency TDM users (>3 requests/month) and clinicians with larger anti-TNF cohorts (>100 patients) were significantly more likely to select the 'most appropriate' answer to at least 1 of the 5 TDM scenarios (figure 2).

Conclusions These results demonstrate marked heterogeneity in the practical use, understanding and interpretation of biologic TDM in IBD. Biologic decision-making, informed by TDM, should involve consultation with experienced clinicians who are frequent TDM users, ideally, as part of a multidisciplinary, biologics-focused IBD meeting.

Scenario	Respondents selecting 'most appropriate' answer (%)									
	Overall	Consultant (n=50)	Non-Consultant (n=60)	p	Anti-TNF cohort >100 (n=65)	Anti-TNF cohort <100 (n=40)	p	TDM used >3/month (n=65)	TDM used <3/month (n=45)	p
1	65	64	67	0.84	66	65	>0.99	68	62	0.68
2	52	66	40	0.008*	54	48	0.55	52	51	>0.99
3	45	58	33	0.012*	42	45	0.84	51	36	0.12
4	36	42	32	0.32	46	23	0.022*	45	24	0.043*
5	30	32	28	0.68	37	20	0.083	38	18	0.022*

Abstract PWE-047 Figure 2 Percentage of respondents selecting the 'most appropriate' answer to each scenario, overall and after diving by subgroup (NB: 5 respondents were unsure of the size of their anti-TNF cohort and were not included in that analysis)

PWE-048 THE NATURE OF CHECKPOINT INHIBITOR-ASSOCIATED LOWER GASTROINTESTINAL TOXICITY: A SINGLE CANCER CENTRE EXPERIENCE

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Introduction Immune checkpoint inhibitors (CPI) are a standard of care for various cancers however can cause unpredictable toxicity, notably of the lower gastrointestinal (GI) tract. As continued expansion of their use is anticipated, we sought to investigate the 'real world' frequency and characteristics of such toxicity.

Methods We conducted a retrospective case-note review of patients treated with ≥one dose of either nivolumab monotherapy (N), pembrolizumab monotherapy (P), sequential pembrolizumab/ipilimumab (P-I) or combination nivolumab +ipilimumab (n+I) between 01/03/2016 – 28/02/2017. Toxicity (tox) was graded using NCI Common Terminology Criteria for Adverse Events v4.03. Statistical comparisons used Student's T-test or Chi Squared tests with Bonferroni corrections.

Results 141 patients were treated (49 female, 34.8%), mean age of 64.6 years. 71, 33 and 37 (50.3%, 23.4% and 26.2%) had melanoma, lung and renal cancers respectively.

83 received P (58.9%) while 39 (27.7%) received N with only 11 (7.8%) and 8 (5.7%) receiving n+I or P-I respectively.

Of these, 29 had any grade GI tox. Their mean age (65.7 years), female proportion (34.4%) and proportion with melanoma, lung or renal cancers (55.2%, 20.1% and 24.1% respectively) did not significantly differ from the 112 patients with no GI tox.

However, 6 (20.6%) vs 2 (1.8%) received P-I and 5 (17.2%) vs 6 (5.4%) received n+I in the GI and no-GI tox cohorts respectively which was significantly different (p=0.001 and 0.036 respectively). Only 2 (7.1%) in the GI tox cohort had initial progressive disease compared to 47 (46.1%, p<0.001).

In the GI tox cohort, 17 had grade 1 (G1) tox, 5 G2 and 7 G3/4. When comparing the G3/4 to G1 cohort there was a trend towards younger age (54.3 vs 67.7 years), treatment with P-I or n+I (71.5 vs 17.8%) and higher CRP (100 vs 62 mg/L).

The rate of G3/4 toxicity was similar to the reported literature. For n+I, 5/11 (45.5%) had any grade GI tox with 3/11 (27.3%) having grade 3/4.

Finally, of those with G3/4 tox, 4 had documented fever at presentation, only 1 had haematochezia and all had diarrhoea of ≥5 x/day. All required IV methylprednisolone but 3 received alternate routes initially (2 oral, 1 rectal). Three patients required infliximab with only 1 requiring ≥1 dose.

Conclusions A significant proportion of patients develop lower GI tox with CPI. They were more likely to have been treated with ipilimumab containing regimens and to have a favourable response to therapy although this may have been confounded by the higher use of n+I in this cohort. The rate of G3/4 toxicity was similar to the literature. Some patients are initially treated with oral/rectal steroid; they may benefit from earlier IV therapy. Infliximab as a single dose is usually effective.

PWE-049 ASSESSMENT OF SYMPTOMATIC HYPOPHOSPHATEMIA WITH IRON ISOMALTOSIDE IN INFLAMMATORY BOWEL DISEASE PATIENTS

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Introduction Patients with inflammatory bowel disease (IBD) often need intravenous (IV) iron but some IV irons have been associated with hypophosphatemia in as many as 47%–70% of patients with iron deficiency anaemia (IDA) without chronic kidney disease with severe hypophosphatemia seen in up to 13% of the patients. Hypophosphatemia has been linked to acute symptoms such as pain, nausea and muscle weakness, and more long term complications such as development of osteomalacia with bone pain, fractures and pseudo fractures. Transient hypophosphatemia

may occur in response to rapid cellular proliferation due to transcellular shift of phosphate from the extracellular fluid into cells whereas longer lasting hypophosphatemia described after treatment with some IV irons seems related to renal phosphate wasting mediated through an increase in the phosphaturic hormone fibroblast growth factor (FGF23). This analysis was done to investigate whether phosphate levels needs to be considered during treatment with iron isomaltoside.

Methods The data presented here is from a pooled analysis of IBD patients from 3 clinical trials of iron isomaltoside performed in IBD patients with IDA. Outcome measures were s-phosphate and adverse drug reactions linked to low levels of serum phosphate. Intact FGF23 (iFGF23) was measured in a subgroup of patients.

Results 255 patients (89 men, 166 women) were included in the analysis. Cumulative doses of ≤ 1000 mg or >1000 mg iron isomaltoside were administered in 189 and 66 patients, respectively.

Hypophosphatemia (s-phosphate <2 mg/dL) was observed in 7.9% and 6.1% in patients dosed with ≤ 1000 mg and >1000 mg iron isomaltoside, respectively ($p=0.8$) and 7.4% for the total population. The drop in phosphate was typically just below 2 mg/dL, appeared one week after the iron infusion and was normalised two weeks after the infusion. These events were asymptomatic, not reported as adverse events, and assessed as non-clinically significant. No severe hypophosphatemia (s-phosphate <1 mg/dL) was observed.

No increase in iFGF23 was seen throughout the study in the subgroup of patients ($n=21$) where it was measured.

Conclusions No severe hypophosphatemia was observed in IBD patients treated with iron isomaltoside and the small dip in s-phosphate observed among 7.4% of the patients was independent of dose. Signs of iFGF23-induced renal phosphate wasting were not observed in the sub-population of patients examined.

PWE-050 ANTI-DRUG ANTIBODIES TO ANTI-TNFS: EXPERIENCE AND OUTCOMES AT A TERTIARY IBD CENTRE

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Introduction Therapeutic drug monitoring in the setting of secondary loss of response to anti-TNF therapies has become a routine part of clinical practice in IBD. Decision making following the detection of anti-drug antibodies (ADAs) to Infliximab and Adalimumab remains variable, especially when further therapeutic options are limited and antibody levels are low.

Methods We retrospectively identified all patients with detectable ADAs to Infliximab or Adalimumab between 2014 and 2016 at a tertiary care adult IBD centre, using a drug sensitive assay. Follow-up was to end-2017 evaluating the therapeutic changes made on detection of antibodies, and the clinical outcomes thereafter.

Results 21 of 203 (10%) and 38 of 203 (19%) tested patients developed ADAs at a median interval of 12 and 8 months after starting therapy with levels above the reported range in

52% (>160 ng/mL) and 50% (>200 ng/mL) of Adalimumab and Infliximab patients respectively.

The majority of testing was for suspected loss of response (46%) and partial response (15%). In contrast fewer were for post-induction (10%) and yearly reassessment (15%), of whom 80% had documented inactive disease. 17% had experienced an infusion reaction around the time of testing.

For Adalimumab patients (figure 1), 4 had prior ADA to Infliximab. 71% had a co-prescribed immunomodulator (IM). The mean time from treatment initiation to ADA detection was 23 months. After ADA detection, 8 (38%) had their Adalimumab therapy continued. Of these, 5 (62%) had dose escalation, of whom 2 had successful ADA suppression and durable remission of 15 and 23 months after initial ADA detection (drug level 1.1 and 4.7 ug/mL respectively). The remaining 3 had persistent ADA at next testing. Of the 19 who discontinued Adalimumab, 32% required a third line out of class biologic.

For Infliximab patients (figure 2), 61% had a co-prescribed IM. The mean time from treatment initiation to ADA detection was 17 months. After ADA detection, 9 (24%) continued on Infliximab. Of these, 5 had successful ADA suppression and sustained remission of 14–27 months to the end of the study (drug levels 2.9–9.6 ug/mL). Of the 33 who had a switch in class of biologic, 52% achieved remission. However, 9% subsequently required a third line and 6% a fourth line out of class biologic.

For both groups, neither a high or low level of ADA, nor duration of biologic pre-testing were predictive of outcome.

Abstract PWE-050 Figure 1

Abstract PWE-050 Figure 2

Conclusions Our study shows some of the challenges in therapeutic drug monitoring when LOR is suspected. When ADAs