

Evolving Outpatient Services in Changing Times: Virtual, Centralised Infliximab Monitoring in IBD Positively Impacts Patient Satisfaction and Reduced Outpatient Waiting Times

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Background

Biologic therapy has become the mainstay of management for moderate to severe inflammatory bowel disease (IBD). Therapeutic drug monitoring (TDM) is pivotal to patient care. We identified a need for alternative means of close follow-up for patients on biologic therapy outside the standard outpatient model. A weekly IBD nurse and consultant-led virtual biologic clinic was established for patients receiving infliximab with proactive TDM and review of disease biomarkers. The aim of this virtual clinic was to standardise and respond to TDM results and objective biomarkers of active IBD (faecal calprotectin, C reactive protein, Hb) in a timely manner while providing a new model of care.

Methods

- We identified actions arising from virtual review including dose amendment and drug discontinuation.
- We reviewed infliximab levels and drug antibody levels for patients receiving infliximab
- A patient satisfaction survey using Likert Scales was carried out with subsequent analysis of the impact of this pilot clinic on outpatient waiting times.

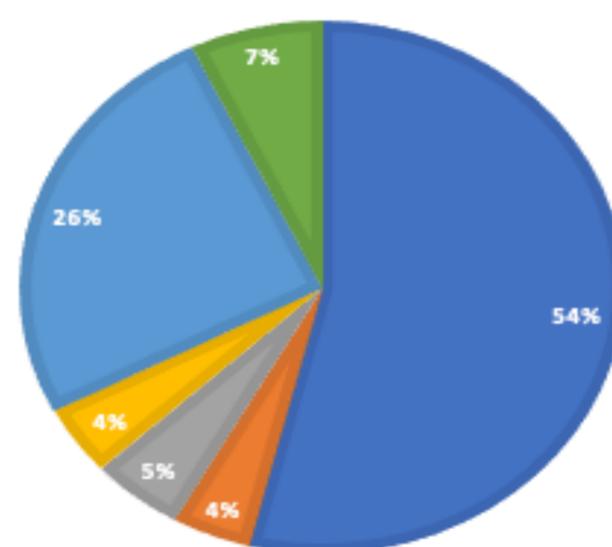
Results

- From inception in June 2019 to June 2020, the nurse led virtual biologic clinic carried out 403 distinct virtual reviews, arising from 103 patients with Crohn's disease and 79 patients with ulcerative colitis/IBD-unclassified. Dose escalation was carried out according to physician-approved protocol aiming for target infliximab levels specific to patient phenotype taking into consideration recent objective evidence of disease activity (faecal calprotectin, radiological imaging or endoscopy).
- 141 amendments to infliximab dose and dose intervals were implemented as a result of these reviews; 76 infliximab dose escalations, and 6 infliximab dose de-escalations, 6 patients received re-induction or accelerated infliximab doses. Thirty-six patients discontinued infliximab therapy due to primary or secondary non-response with 10 of these proceeding to surgery. In addition, 7 patients were referred for clinical review with their primary treating physician for consideration of addition of an immunomodulator therapy due to persistent anti-drug antibodies or insufficient levels in active perianal disease. In relation to infliximab levels 71 low levels (<3 µg/ml) were identified (12.6% total reviews) and 12 supratherapeutic infliximab levels (>15 µg/ml) were identified (2.9% reviews), representing 2.9% of total reviews. 79% of infliximab levels reviewed were within the per-protocol target range.
- In a patient satisfaction survey, 86% were pleased with virtual clinics with 79% preferring a combination of virtual and in-person consultations. In addition, outpatient waiting times for newly referred patients reduced by over 20% over 5 months (mean 4 months vs 5.5 months)

Action	IBD patients (n=141)
Dose Escalation	76/141 (54%)
Dose De-escalation	6/141 (4.2%)
Initiation of Dual Therapy	7/141 (4.9%)
Reinduction/Accelerated IFX Doses	6/141 (4.2%)
Discontinuation of IFX	36/141 (25.5%)
Surgery	10/141 (7.1%)

Infliximab level	Virtual Clinic Reviews
Subtherapeutic (<3 µg/ml)	71 (17.6%)
Within Range (3-15 µg/ml)	320 (79.5%)
Supratherapeutic (>15 µg/ml)	12 (2.9%)

■ IFX Dose Escalation
 ■ IFX Dose De-escalation
 ■ Initiation on Dual Therapy
 ■ Reinduction/Accelerated IFX Doses
 ■ Discontinued IFX
 ■ Surgery



Discussion

- Our nurse-led virtual clinic with consultant oversight was established in 2019 to standardise TDM and address patient appetite for alternative models of chronic disease management. This pilot project led to 20% reduction in new patient waiting lists and a high rate of patient satisfaction. Ongoing evaluation of this model will include analysis of impact on hospitalisation, endoscopic outcomes and economic impact as part of ongoing quality improvement.