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# **PREDICTORS OF RESPONSE AND LOSS OF RESPONSE TO INFLIXIMAB THERAPY FOR CROHN'S DISEASE: A LARGE UK SINGLE CENTRE EXPERIENCE**

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**Introduction** Infliximab (IFX) is licensed for use in Crohn's disease (CD) in the UK. Data from randomised controlled trials demonstrate that IFX is more effective than placebo at inducing remission of active CD, healing fistulising CD and preventing relapse once remission is achieved. Factors predicting response to IFX, and sustained clinical benefit are still emerging. The authors analysed which patient characteristics may predict response, and also loss of response, to IFX, from a large prospective database of CD patients.

**Methods** All patients who receive IFX therapy for CD in our referral centre for CD were included on a prospective database. Data stored included sex, age at diagnosis, duration of disease, surgical history, smoking history and Montreal classification. Concomitant therapy, IFX regimen, duration of therapy and number of infusions, Harvey-Bradshaw indices (HBI), were collected prospectively on commencement of IFX. Response to IFX, following induction or during continuing therapy (sustained clinical benefit), was defined as a  $\geq 2$  decrease in HBI, or by physician's global assessment (PGA).

**Results** In total, 3165 IFX infusions were delivered to 210 patients over a median of 24 (IQR 7–48) months (median of 12 (IQR 4–22) infusions per patient). In total, 173 (82.4%) patients responded to IFX induction as determined by PGA and HBI scores (mean HBI pre- of 9.0 and 4.3 post-IFX induction). There were 18 (8.6%) patients with primary non-response (NR) to IFX induction (mean HBI of 10.1 pre-IFX and 10.3 post-IFX induction). A further 19 (9.0%) patients discontinued IFX during induction for other reasons including adverse events. At

the last point of follow-up, 114 (65.9%) of the 173 responders (54.3% of the original cohort) to induction therapy experienced sustained clinical benefit from IFX, as determined by HBI and/or PGA (mean HBI of 3.9, with 84 (40% of the original cohort) having an HBI  $\leq 4$ , indicating remission). Predictors of response to IFX included male sex ( $p=0.01$  for response to induction and  $p=0.006$  for sustained clinical benefit), luminal disease ( $p=0.02$  for sustained clinical benefit) and scheduled 8 weekly therapy ( $p=0.03$  for sustained clinical benefit). There were 32 (18.5%) with secondary NR, 14 received IFX episodically initially and 18 received IFX as scheduled therapy. Patients were significantly more likely to experience secondary NR if treated episodically at induction ( $p=0.01$ ). Secondary NR occurred sooner in patients with a stricturing or penetrating phenotype ( $p=0.007$ ).

**Conclusion** IFX therapy is efficacious for treatment of CD. The authors identify a number of predictors of response to therapy. This data support the proposal of scheduled maintenance therapy for IFX responders as per the new NICE guidance.

**Competing interests** None.

**Keywords** infliximab, predictors of response.