

Clinical tool CDST for treatment of IBD with vedolizumab

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INTRODUCTION

The goal of medical treatment of inflammatory bowel disease (IBD) is not only to induce and maintain clinical remission, but above all to achieve healing of the intestinal mucosa, as this is the only way to prevent long-term complications of the disease (1). Currently, the decision on the form of medical therapy is based on clinical information about location and severity of the disease and the intensity of the inflammatory process, the patient's treatment history, previous complications and comorbidities (2). Recommendations from professional associations based on evidence-based medicine or clinical research are helpful in deciding on type and regime of biological therapy, but the final decision is based on clinical judgement. In 2018, Dulai *et al* developed and validated a scoring system to identify patients with Crohn's disease (CD) most likely to respond to 26 weeks of vedolizumab (VDZ) therapy. For the development of clinical decision support tool

(CDST) they used data from GEMINI 2 and VICTORY consortium cohorts to identify factors associated with clinical, corticosteroid-free, and durable remission and they divided the patients into three probability groups, regarding their response status: low (< 25%), intermediate (25–75%) and high probability (> 75%). Each variable was weighted for the final single prediction model equation (table 1). This prediction model was derived and externally validated for accurately predicting clinical remission, corticosteroid-free remission, mucosal healing and deep remission with VDZ therapy in patients with CD (3). This way they derived a tool for identifying patients with CD most likely to respond to treatment with VDZ which may be routinely used in clinical practice to guide optimisation of treatment outcomes and as part of the shared decision-making process (3, 4).

In 2020, the same expert group also developed the CDST for VDZ treatment in ulcerative colitis (UC).

Table 1. CDST variables for Crohn's disease

No prior bowel surgery	+ 2 points
No prior TNF-antagonist therapy	+ 3 points
No prior fistulising disease	+ 2 points
Baseline albumin	+ 0.4 points per g/L
Baseline CRP	- 0.5 points if 3.0–10.0 mg/L - 3.0 points if > 10 mg/L

Table 2. CDST variables for ulcerative colitis

Disease duration ≥ 2 years	+ 3 points
No prior TNF-antagonist therapy	+3 points
Baseline endoscopy moderate activity	+ 2 points
Baseline albumin	+ 0.65 points per g/L
TNF = tumor necrosis factor, CRP = C-reactive protein	

They used data from the GEMINI 1 and VICTORY consortium cohort. They considered following inclusion variables: disease duration, previous TNF antagonist exposure, baseline endoscopy and baseline albumin. The chosen variables were assigned certain points and similarly to CDST for CD patients were assigned into three groups according to probability of response to VDZ (table 2). This prediction model was derived and validated for predicting differences in measured VDZ drug exposure, onset of action and VDZ treatment effectiveness, as well as identification of patients who would most likely benefit from VDZ interval shortening for response optimization (5).

The aim of our retrospective study, based on data collected in the UR-CARE registry, was to determine the potential correlation of CDST in our cohort of patients with CD and UC with VDZ treatment decision-making.

CONCLUSION

The ability to identify patients with IBD who are more likely to respond well to a specific drug before initiation of treatment would allow more effective treatment of the disease, avoid adverse effects and potentially reduce healthcare costs (6). Prospective studies are expected.

References

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