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Editorial

Infliximab versus Adalimumab, Which One Is Better for Ulcerative Colitis?

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See "Comparison of Long-term Outcomes of Infliximab versus Adalimumab Treatment in Biologic-Naïve Patients with Ulcerative Colitis" by Yong Il Lee, et al. on page 232, Vol. 15, No. 2, 2021

Since the introduction in the mid-2000s, anti-tumor necrosis factor (TNF) have been considered as paradigm-changing treatment in the management of patients with ulcerative colitis (UC). In the pivotal clinical trials of anti-TNF agents for the management of UC, the rates of clinical remission and clinical response in anti-TNF treated group were significantly higher than in the placebo group during induction and maintenance phase. Use of these agents reduces the risk of poor clinical outcomes including hospitalization,[1] cumulative corticosteroid exposure,[2] and early phase surgery in patients with UC.[3] In addition, they also improve health related quality of life which is an important patient-reported outcome.[4]

Infliximab and adalimumab comprise the main part of anti-TNF agents; infliximab was first to be approved for the treatment of UC, followed by adalimumab in several years. Infliximab is administered by intravenous infusion in every 8 weeks after induction, while adalimumab is injected subcutaneously in every 2 weeks. Although both drugs are proved to be effective in controlling disease activity of moderate to severe UC, there remains a naïve question; which one is better? This question has never been answered because there is no head-to-head trial comparing these agents in terms of the efficacy and safety for patients with UC. Using data from pivotal studies of each drug, network meta-analysis has been performed to answer that question.[5] However, this was criticized by indirect methodology as the results was calculated based on data against placebo, not each other drug.

In the current issue, Lee *et al.*[6] reported data directly comparing treatment efficacy and long-term outcomes between infliximab and adalimumab in 113 biologic-naïve patients with moderate to severe UC. Patients with acute severe UC were excluded. This retrospective study showed that clinical remission and response rates at 8 and 52 weeks were comparable between infliximab and adalimumab (clinical remission 47% vs 56.7% [p=0.364] at 8 weeks, 39.8% vs 50% [p=0.331] at 52 weeks; clinical response 86.7% vs 76.7% [p=0.196] at 8 weeks, 72.3% vs 76.7% [p=0.642] at 52 weeks). They also found no difference between groups in poor outcomes including hospitalization, discontinuation of drug, corticosteroid prescription, and switching to another drug during median 26 months follow-up period although infliximab group showed marginally higher rate of UC-related hospitalization than adalimumab group (p=0.051). Despite the drawbacks of the study such as retrospective design, small sample size and inadequate measurement of endpoint (not using endoscopic parameters), the result of the study is meaningful as this is the first study to directly compare clinical remission and response rates between two drugs for UC patients in the routine clinical practice.

There are several real-world studies comparing various outcomes between infliximab and adalimumab in biologic-naïve patients with UC. A nationwide Danish cohort study showed a higher risk of hospitalization and serious infections in adalimumab compared with infliximab.[7] The U.S. cohort study using an administrative claims database showed that infliximab users had lower corticosteroid use than adalimumab users while both groups had a similar risk of hospitalization and serious infections.[8] A French single-center study reported that these two drugs showed

comparable levels of persistence while the U.S. study found that adalimumab had the high persistence for 1 year after treatment compared with infliximab.[9,10] The disparity among different studies might be attributed to various factors like different study design and distinct ethnicity of patients.

As phenotype of UC is different in various ethnic groups which may be linked to different genetic backgrounds, it is crucial to have data of specific drug efficacy in diverse populations. In line with this notion, the study by Lee *et al.* is clinically relevant in that it was conducted in Korea where inflammatory bowel disease incidence has been rapidly rising. The real-world study from other Asian countries is warranted to confirm the result of the current study.

Although the above question cannot be answered without head-to-head trial, infliximab and adalimumab seem to be equally effective for patients with moderate to severe UC. Therefore, these agents might be selected based on various factors like socioeconomic condition or patients' preference.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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