How Is Infliximab Harmful?

TO THE EDITOR: In reading Hoffman and colleagues’ (1) article on infliximab for glucocorticoid-induced remission of giant cell arteritis (GCA), I was surprised to see the conclusion statement of “ . . . [in-\textit{fliximab}] is of no benefit and may be harmful.” I could find no evidence of harm or injury in the study patients and thought it was unfortunate that the sponsor ended the study prematurely. Of additional intrigue is the use of the same conclusion in the following article on infliximab plus prednisone or placebo for polymyalgia rheumatica, by Salvarani and colleagues (2), which similarly concluded that “ . . . [in\textit{liximab}] is of no benefit and may be harmful.” Could the authors clarify this issue of “harm”? As stated in Hoffman and colleagues’ article, the treatment of refractory GCA is an area where no proven options are available, and one may be forced to use novel agents. Unfortunately, trials of methotrexate, azathioprine, and other agents have not shown benefit. Because our first rule in the Hippocratic Oath is to do no harm, one may not consider infliximab in GCA despite a lack of evidence of any potential injury presented in the results of the article.

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Potential Financial Conflicts of Interest: None disclosed.

References

IN RESPONSE: Although we appreciate Dr. Arkfeld’s thoughtful communication, we stand by the original conclusion that the use of infliximab plus corticosteroids is of no benefit in the treatment of patients with newly diagnosed GCA and may be harmful. Clinical trials generally are too small for safety signals to be evaluated by using statistical testing. This is especially true for a trial the size of ours, and therefore a judgment regarding the benefit versus the risk must be based on clinical information. In our trial, 10 infusion reactions occurred in 6 patients in the infliximab group, whereas none occurred in the placebo group. Although most reactions were of only mild-to-moderate intensity, 1 patient discontinued therapy because of dyspnea and flushing. Although not of clinical consequence, antibodies to double-stranded DNA occurred in 16% of patients in the infliximab group and were not found in any patients in the control group.

Although not noted in our study, infliximab and other anti–tumor necrosis factor agents are known to have been infrequently, albeit significantly, associated with opportunistic infections, reactiva-
in the risk for HCC in this population. Data on BMI and a history of diabetes should be available from the patient charts. Therefore, readers would be interested in whether risk factors, such as BMI and diabetes mellitus, contribute to the development of HCC in this population and modify the association between anti-HBe positivity and the development of HCC in individuals with hepatitis C virus–related cirrhosis.

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Potential Financial Conflicts of Interest: None disclosed.

References

IN RESPONSE: We thank Drs. Loomba and Ghany for their comments. As they pointed out, obesity is widely recognized as a significant risk factor for many types of human cancer, including HCC (1). In our paper, we prospectively analyzed the various clinical factors, including anti-HBe positivity, smoking, and alcohol intake, as risks for the occurrence of HCC in Japanese patients with hepatitis C virus (HCV) infection.

We found that the incidence of HCC in patients with a BMI of 30 kg/m² did not significantly differ from that of patients with a BMI of 25 kg/m² (16.7% vs. 22.1%, respectively; P = 0.85). However, the prevalence of obesity among the Japanese population is not as high as that among U.S. and European populations. In fact, only 3.0% of the HCV-positive patients analyzed in our study had a BMI greater than 30.0 kg/m². In contrast, the prevalence of obese individuals with a BMI greater than 30.0 kg/m² in the United States ranges from 13% to 27% (2). A recent U.S. study revealed that the relative risk for HCC was 1.68 times higher among women with a BMI of 35 kg/m² and 4.52 times higher among men with a similarly increased BMI than in reference groups with baseline BMIs of 18.5 kg/m² to 25.0 kg/m² (3). Thus, it seems reasonable to assume that too few Japanese patients with HCV-related chronic liver disease had BMI high enough to evaluate the risk for HCC occurrence.

Similarly, several epidemiologic data showed an increased risk for HCC among patients with diabetes, a condition closely associated with obesity (4). However, only 5.7% of our Japanese patients with HCV-related chronic liver disease had a diagnosis, with diabetes defined by the use of insulin or oral diabetic medication. Therefore, it was also difficult to analyze the statistical difference of the HCC incidence between patients with and those without diabetes enrolled in our prospective study. In conclusion, we believe that further prospective studies should be done in overweight persons to determine whether high BMI and presence of diabetes could be risks for HCC.

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Potential Financial Conflicts of Interest: None disclosed.

TO THE EDITOR: We agree with the conclusions of the insightful editorial by Luqmani (1) about the 2 randomized, controlled trials (RCTs) of infliximab in polymyalgia rheumatica (2) and giant cell arteritis (GCA) (3), especially that corticosteroids are still the cornerstone of treatment for these 2 related diseases. However, although these 2 studies showed that adding infliximab to prednisone is of no benefit in patients with GCA or polymyalgia rheumatica, a corticosteroid-sparing effect for tumor necrosis factor (TNF) blockers in these 2 conditions cannot be completely excluded. As Luqmani pointed out, the 2 trials were designed to detect a large effect of infliximab because of the drug’s expense and possible adverse effects. They were too small to definitively identify small benefits. Another argument can be made for a possible therapeutic benefit for TNF-blocking agents. The 2 RCTs enrolled patients with newly diagnosed polymyalgia rheumatica and GCA. Two open, pilot studies that preceded these RCTs observed the efficacy of infliximab in reducing corticosteroid requirements in patients with long-standing, relapsing polymyalgia rheumatica and GCA (4, 5). In these patients, the potential anti-inflammatory effect of infliximab was demonstrated by the reduction of acute-phase reactants, including interleukin (IL)-6 circulating levels, 2 weeks after the start of therapy. The reduction in IL-6 levels was of particular interest, because the persistence of elevated levels of this cytokine characterized the patients with continued active disease who require higher and more prolonged doses of corticosteroids (4). It is possible that TNF-blocking agents are effective in subsets of patients with polymyalgia rheumatica and GCA char-

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acterized by a more chronic, relapsing course. A third recent open study from our group suggests that etanercept may be another useful corticosteroid-sparing agent in patients with polymyalgia rheumatica and refractory disease—that is, patients with more severe disease (6). The efficacy of TNF-blockers in patients with relapsing disease also has a pathophysiologic basis. The elegant study by Hernández-Rodríguez and colleagues (7) showed that high TNF-α production in GCA was associated with longer steroid requirements and relapsing disease. Therefore, before completely excluding a potential therapeutic role for TNF-blockers in polymyalgia rheumatica or GCA, we suggest that RCTs be performed enrolling only patients with relapsing or refractory polymyalgia rheumatica and GCA.

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Potential Financial Conflicts of Interest: None disclosed.

References

IN RESPONSE: I am grateful to Drs. Salvarani and Hunder for raising the issue that their studies of infliximab in polymyalgia rheumatica and GCA were not designed to test a small treatment effect of the agent above that achieved from corticosteroid alone. If there is only a small treatment effect, a cost–benefit analysis is likely to conclude that infliximab does not have a clinically or statistically significant role in the management of polymyalgia rheumatica or GCA. If, on the other hand, the study demonstrated that severe complications, such as sight loss in GCA, could be prevented or that steroid toxicity could be avoided by using much lower doses of steroid, these would be more compelling reasons to reconsider the use of this agent in these diseases.

There is a separate question about whether infliximab has a role in the management of patients who have relapsing or resistant disease, in whom the authors point out that benefits have been seen, albeit in pilot studies. Reduction in IL-6 levels as a result of suppressing TNF and associated with clinical benefit would suggest that a more direct attack on IL-6 might be more logical, especially because the persistence of IL-6 in temporal biopsy specimens is predictive of disease persistence. There would certainly be support for a study looking at the management of resistant polymyalgia rheumatica and GCA with anti-TNF therapy or anti–IL-6 therapy.

We may be able to identify at onset patients in whom standard therapy with corticosteroids is likely to fail and stratify them to receive additional anti-TNF or anti–IL-6. It is becoming more realistic to perform cytokine profiles in clinical practice and thereby identify patients who are most likely to require more aggressive therapy and those who may benefit from much milder therapy. In the control groups for these 2 studies, several patients responded well to short-duration corticosteroid therapy.

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Potential Financial Conflicts of Interest: None disclosed.

CORRECTION

Correction: Strengthening the Reporting of Observational Studies in Epidemiology Statement

In the recent Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement (1), Dr. Drummond Rennie was inadvertently left out of the Acknowledgment section. Dr. Rennie has contributed to the project since the beginning. The authors are grateful for his support and pleased to acknowledge it.

Reference
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