

Unfavorable outcome of antiviral therapy in cytomegalovirus-positive ulcerative colitis may be due to inappropriate study inclusion in meta-analysis

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Received: September 9, 2014

Peer-review started: September 10, 2014

First decision: October 14, 2014

Revised: November 13, 2014

Accepted: December 16, 2014

Article in press: December 16, 2014

Published online: February 7, 2015

had a higher risk of 30-d colectomy. We found that in this meta-analysis, some studies were inappropriately included, leading to an unfavorable outcome of anti-CMV therapy in UC patients.

Key words: Ulcerative colitis; Cytomegalovirus; Antiviral therapy; Colectomy; Meta-analysis

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Core tip: A recently article in the *World Journal of Gastroenterology* entitled "Antiviral therapy in cytomegalovirus-positive ulcerative colitis: A systematic review and meta-analysis" showed that antiviral therapy caused a higher risk of 30-d colectomy in cytomegalovirus-positive ulcerative colitis patients. We found that in this article, unfavorable outcome of antiviral therapy was due to inappropriate study inclusion in meta-analysis.

Wu XW, Yang MF, Li N, Wang FY. Unfavorable outcome of antiviral therapy in cytomegalovirus-positive ulcerative colitis may be due to inappropriate study inclusion in meta-analysis. *World J Gastroenterol* 2015; 21(5): 1689-1690 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v21/i5/1689.htm> DOI: <http://dx.doi.org/10.3748/wjg.v21.i5.1689>

Abstract

Some previous articles reported that antiviral treatment was effective to reduce the colectomy rate in ulcerative colitis (UC) patients with cytomegalovirus (CMV) infection. Kopylov *et al* recently carried out a systematic review and meta-analysis to evaluate the impact of antiviral therapy on CMV-positive UC. The results showed that patients who received antiviral treatment

TO THE EDITOR

Kopylov *et al*^[1] recently published an interesting article in the *World Journal of Gastroenterology* entitled "Antiviral therapy in cytomegalovirus-positive ulcerative colitis: A systematic review and meta-analysis". In this study, they investigated the impact of antiviral therapy on the colectomy rate in ulcerative

colitis (UC) patients with cytomegalovirus (CMV) infection. Nine studies were included for the meta-analysis, and the 30-d colectomy risk in patients with antiviral therapy was significantly higher than patients without antiviral therapy (odds ratio, 2.40, 95%CI: 1.05-5.50).

After full-text review of the nine articles, we considered that four of them were not suitable for the inclusion in the meta-analysis. Kim *et al*^[2] reported that 14 CMV-positive patients with steroid resistance were treated with ganciclovir, and three of them underwent colectomy without remission. Other 17 CMV-positive patients did not receive ganciclovir only because they were steroid responsive, and none of them required surgery. Kopylov *et al*^[3] retrospectively described the clinical course and outcome of 13 CMV-positive UC patients, seven of whom were treated with antivirals. The treated and untreated groups were significantly different in disease severity, and antiviral therapy was generally undertaken in patients without clinical improvement. Omiya *et al*^[4] prospectively evaluated the necessity of antiviral therapy based on endoscopic feature in 20 UC patients with CMV infection. Ten patients without a large ulcer did not receive anti-CMV treatment and all maintained remission. Other ten patients with a large ulcer were treated with ganciclovir and three of them underwent colectomy, but their clinical and endoscopic characteristics were significantly severer. Maruyama *et al*^[5] reported that 16 CMV-positive UC patients received conventional immunosuppressive therapies. Four unresponsive patients were treated with ganciclovir and one of them avoided colectomy, while 12 responsive patients were not administered with antiviral therapy. In the four studies, colectomy rates in treated groups were much higher than that in untreated groups. But it is obviously that the decision of antiviral administration was according to response to conventional therapy or severity of disease, which were regarded as important factors impacting the rate of colectomy. Thus, we considered that these studies were inappropriately included in this meta-analysis evaluating the efficacy of antiviral therapy in UC patients with CMV infection. Accordingly, there was not enough evidence to conclude that antiviral therapy led to a higher 30-d colectomy risk.

Although no randomized controlled trial has been performed to evaluate the efficacy of antiviral therapy in UC patients with CMV infection, some observational studies had showed that CMV infection

was associated with steroid-resistant disease and antiviral therapy was beneficial to clinical outcome. Xue *et al*^[6] reviewed previous studies that estimated the effectiveness of antiviral therapy in CMV-positive UC patients, and found that overall remission rate was up to 80.2% after receiving anti-CMV treatment. Ganciclovir is the first choice for treatment of CMV infection in UC patients, and 2-3 wk therapy duration is recommended by the ECCO^[7]. With the use of some immunosuppressors and biological agents, the colectomy rate in UC patients has reduced in recent years. Although antiviral therapy is not routinely recommended in steroid-refractory UC patients with CMV infection, we think it is still a considerable therapeutic method before surgery.

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P-Reviewer: Deng B, Shen XC **S-Editor:** Qi Y
L-Editor: Wang TQ **E-Editor:** Wang CH





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ISSN 1007-9327

