ANTIBIOTICS FOR INDUCTION AND MAINTENANCE OF REMISSION IN CROHN’S DISEASE

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Background: Trials of antibiotic therapy for Crohn’s disease (CD) have produced conflicting results.

Aims: We performed a systematic review and meta-analysis to determine the efficacy and safety of antibiotics for induction and maintenance of remission in CD.

Methods: EMBASE, MEDLINE, the Cochrane Library and the Cochrane IBD Group Specialized Register were searched from inception to September 2016. Randomized controlled trials (RCTs) comparing antibiotics to placebo or an active comparator in CD patients were considered for inclusion. Data were analyzed based on intention-to-treat. Risk ratios (RR) and corresponding 95% confidence interval (95% CI) were calculated for dichotomous outcomes. The primary outcome was the number of patients who failed to achieve clinical remission. Methodological quality was assessed using the Cochrane risk of bias tool. GRADE was used to assess the overall quality of the evidence for the primary outcome.

Results: Fourteen RCTs (n = 1469 patients) were eligible. Two trials were rated as high risk of bias (no blinding). Eight trials were rated as unclear risk of bias and 4 trials were rated as low risk of bias. Ciprofloxacin, metronidazole, clarithromycin, rifaximin and cotrimoxazole were evaluated at therapeutic doses. Comparisons included antibiotic vs. placebo, antibiotic vs. steroid, antibiotic vs. placebo in addition to usual therapy and antibiotic vs. placebo in addition to biologic therapy. A pooled analysis of 8 placebo-controlled RCTs (801 patients) showed no significant difference in clinical remission at 6 to 10 weeks. Fifty per cent (267/535) of antibiotic treated patients failed to enter remission compared to 59% (158/266) of placebo patients (RR 0.87, 95% CI 0.75-1.01; moderate quality evidence). A pooled analysis of two placebo-controlled studies (155 patients) showed no statistically significant difference in relapse rates at 52 weeks. Forty-five per cent (37/83) of antibiotic treated patients relapsed compared to 57% (41/72) of those assigned to placebo (RR 0.87, 95% CI 0.52-1.47; low quality evidence). There were no statistically significant differences between antibiotics and placebo in the proportion of patients with adverse events (RR 0.87, 95% CI 0.75-1.02; 9 studies; 852 patients), serious adverse events (RR 1.12, 95% CI 0.26-4.76; 4 studies; 555 patients), or withdrawal due to adverse events (RR 0.86, 95% CI 0.57-1.29; 9 studies; 858 patients).

Conclusions: Antibiotics are ineffective for induction or maintenance of remission in Crohn’s disease.
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