Rosacea in Crohn's Disease: Effect of Rifaximin

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Rosacea is a skin disease that manifests as flushing, persistent skin redness (ie, erythematous form), small rounded bumps on the skin (ie, papulopustular form), or dilated superficial blood vessels (ie, telangiectasia).[1] The pathophysiology of rosacea is unknown, but alterations in the immune system, either by organic disease (eg, inflammatory bowel disease [IBD])[2,3] or immune-altering medications,[4] may predispose individuals to the development of rosacea. Standard therapy for rosacea includes topical therapies (eg, sodium sulfacetamide) and oral antibiotic medications (eg, doxycycline, tetracycline, minocycline, erythromycin, and metronidazole) for patients who are intolerant of topical therapies.[5]

Rifaximin, a nonsystemic antibiotic with a placebo-like tolerability profile,[6] has demonstrated efficacy for the reduction of symptoms in patients with IBD[7,8] and other gastrointestinal disorders (eg, small intestinal bacterial overgrowth [SIBO] and irritable bowel syndrome)[9,10] and rosacea in the general population.[11] This case series details the efficacy of rifaximin for rosacea in 3 patients with Crohn's disease (CD).

Case 1: A 30-year-old female with an 8-year history of CD presented at a gastroenterology clinic with excess flatulence and diarrhea. Sigmoidoscopy revealed severe segmental colitis with sigmoid ulcerations and anal stenosis. The patient had been receiving mercaptopurine and sulfasalazine for CD for 3 years after having had a temporary 6-month response to infliximab and prednisone, which had been stopped 1 year before presentation. The patient also reported a 7-year history of papulopustular rosacea. Rosacea had preceded use of infliximab and had gone untreated. Upon presentation, mercaptopurine and sulfasalazine were discontinued because they were ineffective, and rifaximin 1200 mg/d was prescribed for both CD and rosacea. After 10 days of rifaximin therapy, the patient reported improvement of excess, malodorous flatus and mild improvement of diarrhea. In addition, her rosacea improved, especially on her nose.

Case 2: A 65-year-old female with a 40-year history of mild ileocolitis presented with frequent diarrhea and a 1-year history of nasal erythema and thickened skin overlying her cheeks. She had been receiving only diphenoxylate-atropine for control of diarrhea after having failed budesonide and mesalamine therapy. Rifaximin had been used previously to alleviate diarrhea. Therefore, rifaximin 1200 mg/d was prescribed for 10 days for treatment of both diarrhea and rosacea. At the end of treatment, the patient experienced reduction of her diarrhea and complete clearing of the erythema on her nose.

Case 3: A 46-year-old male who had an ileocolic resection 26 years ago for CD and was receiving mercaptopurine 1.5 mg/kg/d (100 mg total) for maintenance of remission presented with 3 loose-to-liquid foul stools per day. He also reported a 5-year history of nose and cheek redness, which had intensified over the previous year, and a possible genetic predisposition for rosacea (ie, his aunt had rosacea). He had never received treatment for rosacea. Rifaximin 1200 mg/d was prescribed for 10 days to alleviate gastrointestinal symptoms and rosacea. At the end of rifaximin therapy, the patient had improvement in stool form and odor and complete eradication of the rosacea.

Treatment with rifaximin 1200 mg/d for 10 days improved skin and gastrointestinal symptoms in all patients with CD in this case series. Although the presence of SIBO was not studied with breath testing or cultures in these patients, the improvement of gastrointestinal symptoms and rosacea may have been the result of SIBO eradication or improvement in dysbiosis with a subsequent decrease in systemic immune stimulation. This supposition is based on the results of previous studies that demonstrated the efficacy of rifaximin 1200 mg/d in resolving SIBO in patients with CD[9] and in resolving rosacea in patients who had eradication of SIBO.[11] Furthermore, rifaximin is nonsystemic, and thus improvement in the skin must be based on manipulation of gut flora. Rifaximin therapy in this case series completely resolved the erythematous rosacea in 2 patients with ileal disease and moderately improved papulopustular rosacea in the other patient who had disease grossly limited to the colon. Given the improvement of rosacea with rifaximin therapy, the data presented here suggest interplay between SIBO and/or dysbiosis with subsequent immune dysregulation and/or systemic inflammation and rosacea. For this reason, the prevalence of rosacea in patients with IBD and the effect of nonabsorbed antibiotic therapy on rosacea deserve further study.

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