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Efficacy of using antibiotic cocktail in medically refractory colitis/ inflammatory bowel disease

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Background

- Antibiotic cocktail targeting intestinal bacteria may offer a promising approach in certain patients with medically refractory IBD.
- It may find a place in serving as a bridge to more effective long-term medical therapies and in some cases help in achieving clinical remission in patients with refractory disease as an adjunctive therapy.
- Its main attractions include efficacy in about 50% of medically refractory patients and a non-immunosuppressive adjunct in treatment of children who may otherwise suffer from complications of untreated disease or heavy immunosuppression.
- The main drawbacks are lack of understanding of true mechanism of action, potential development of drug resistance bacterial colonies, optimal therapy duration, and patient. phenotype selection (e.g., who is most likely to benefit?)
- Pediatric data is sparse regarding efficacy, indications and treatment protocol.

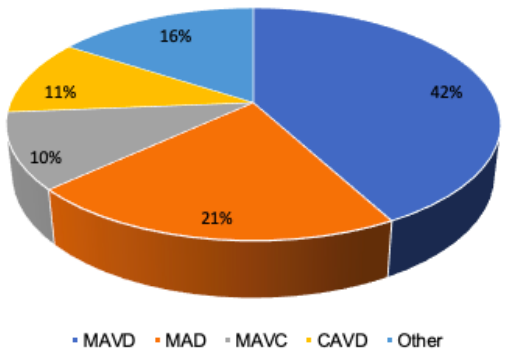
Methods

- Patients with IBD between the ages of 1 year and 22 years who were treated with an antibiotic cocktail consisting of at least 3 drugs for a minimum of 1 week for medically refractory disease were included in the analysis.
- Children who had undergone simultaneous changes in IBD therapy within 4 weeks of starting antibiotics were excluded from analysis.
- The choices of antibiotic regimen and duration of therapy were made by the provider and were generally based upon the antibiotic cocktail used by Turner and colleagues (2014).

Results

Patient Characteristics At Time of Antibiotic Initiation (n = 19)	
Female, No. (%)	8 (42)
Age at time of diagnosis, mean, y	10.8 ± 4.6
Moderate or severe disease, No. (%)	18 (95)
IBD type, No. (%)	
CD	8 (42)
UC	5 (26)
IBD-U	6 (32)
Steroid dependent or resistant, No. (%)	7 (37)
Poor response to anti-TNF therapy, No. (%)	18 (95)

Combination antibiotic regimens

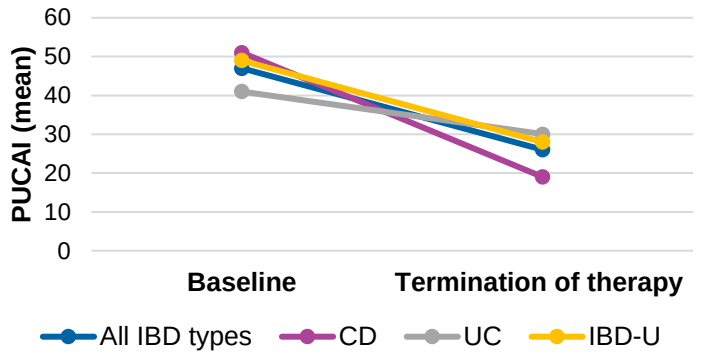


- The most common antibiotic regimen was amoxicillin, metronidazole, doxycycline, and vancomycin.
- The median duration of treatment (range) was 28 (14–28) days.

M = Metronidazole
A = Amoxicillin
V = Vancomycin
D = Doxycycline
C = Ciprofloxacin

Results cont.

Response to antibiotic cocktail



- The antibiotic cocktail was definitely effective in 12 of 19 patients (PUCAI < 10) who entered clinical remission following therapy.
- By diagnosis, 2 (40%) with ulcerative colitis, 6 (75%) with Crohn's colitis, and 4 (80%) with indeterminate colitis responded.
- 4 (21%) patients developed Clostridium difficile infection after undergoing therapy.
- 4 patients (21%) required colectomy for medically refractory disease.

Conclusions

- The use of oral wide-spectrum antibiotic cocktail in pediatric IBD seems promising and safe in children refractory to other salvage therapy.
- Further research, including randomized controlled trials, are necessary to further evaluate efficacy in this delicate population.