Combined non-Orthodox Therapy in the Management of Treatment-Resistant Infections due to Helicobacter pylori, Giardia duodenalis and Microsporidium sp. In a Patient with Chronic Diarrhea, Wasting Syndrome and Severe Antibiotic Allergy

Marcel Marcano-Lozada 1, Silvia Molero-Leon 2
1Medical Microbiology Specialist, Medical Microbiology Unit, Angios Vascular Center & Wound Clinic, Caracas, Venezuela.
2Internal Medicine Specialist, Angios Vascular Center & Wound Clinic, Caracas, Venezuela

E-mail: marcelmarcano@gmail.com

*Corresponding author: Marcel Marcano-Lozada, 1Medical Microbiology Specialist, Medical Microbiology Unit, Angios Vascular Center & Wound Clinic, Caracas, Venezuela.

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We resume a clinical case study due to the complexity of endoscopic diagnosis and previous health issues of the patient, and with the additional restriction in the use of anti-infective treatments for a severe allergic reaction record.

Reference Summary
The current illness of a 45-year-old female patient, born and raised in Caracas, Venezuela, known with a past of left hemicolecotomy for abdominal trauma 4 years ago and subsequent intestinal malabsorption syndrome, who presents fetid diarrheal stools in number 5-8 / day and burning pain sensation in epigastric region, and the last 6 months with significant weight loss (30 kg), was referral to our diagnostic facility care to being evaluated.

Relevant background
- Allergic to penicillin, macrolides & quinolones (angioneurotic edema).
- Restitution of intestinal transit 1 year prior to the beginning of diarrheic manifestation, without apparent complications.
- Upper digestive endoscopy one year later the onset of diarrhea shows chronic antral gastritis (without H. pylori microbiological confirmation, but histologically suspected) treated with duo-therapy based on Metronidazole + Ranitidine.
- HIV Negative serology and negative tumor biomarkers.

Physical exam
- Patient in general regular conditions, wasted, weighing 40 kg.
- Multiple abdominal scars.
- Pain to epigastric deep palpation.

Microbiological and Therapeutic Evolution
A microbiological study of feces is carried out, finding more than 100 spores of Microsporidium sp. (Kinyoun stain) -nor previously diagnose since the beginning of the diarrheic manifestations-, plus a positive Giardia duodenalis fresh mount stool exam. A Urea Breath Test with Charcoal 14 (UBT-C14) is performed and detect active gastric infection by H. pylori Considering the allergic background, treatment with Albendazole 400 mg/PO/BID/4 weeks is started together with Furazolidone 100 mg/PO/QID + Tetracycline 300 mg/PO/QID scheme for 2 weeks associated with Omeprazole 20 mg/PO/BID for 2 months. In the coprolorganic control examination at the end of the Albendazole treatment time, eradication of Giardia duodenalis is verified, with persistence of Microsporidium sp.; and it is indicated to extend Albendazole course for an additional 4 weeks.

The microbiological reassessment a month later shows persistence of microsporidia, and the control of urea breath test for H. pylori remains positive indicating therapeutic failure in the eradication of both microorganisms.

We decide to presented a non-orthodox therapeutic option using Nitazoxanide 500 mg/PO/BID + Tetracycline 300 mg/PO/QID for 3 weeks + Esomeprazole 40 mg/PO/OD for 2 months, and the patient gives her writing consent for the new treatment schema. In the post-treatment microbiological control, the eradication of Microsporidium sp. & Helicobacter pylori is verified by Kinyoun stain without evidence of spores of microsporidia and a control negative UBT-C14, with complete clinical improvement. In addition, the patient didn’t show any adverse reaction to the novel therapeutic combination.

Conclusion
For cases as special as the one presented, a deeper coprological exam (including Coccidia & Microsporidia investigation) and non-invasive H. pylori diagnostic test (as UBT-C14) should be performed, moreover, where the antimicrobials allergies contraindicate the initial therapeutic lines. The knowledge of epidemiological susceptibility/resistance patterns is necessary, as it seems with the high resistance of H. pylori to metronidazole in Venezuela (> 70%), plus,
the limited effectiveness of treatment with Albendazole in microsporidia infection, leads to the use of alternative polyvalent antiparasitic drug that is usefully demonstrated, and the antibacterial effect of Nitazoxanide in the combination therapy for eradication of resistant *H. pylori* and its effective action in chronic diarrheic microsporidia disease, oblige to consider it use in the combination treatment of selected cases of multiple infective agents (when first line treatment were contraindicate or non-available).

**References**