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Case Report

Successful Experience with an Intestinal Microbiota Transplantation

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Abstract

We report the case of a 66-year-old male with a past medical history of arterial hypertension and osteoarthritis and several gastrointestinal complaints. He presented to the clinic with a ten-year history of hematochezia, diarrhea or constipation, abdominal distension, abdominal and rectal pain, pyrosis, regurgitations, nausea, and a severe anxiety score by the Hamilton Anxiety Rating scale. On clinical examination, he had a 20 cm skin rash on the right side of the abdomen and onychomycosis. He underwent an upper endoscopy and a colonoscopy, followed by an intestinal microbiota transplantation (IMT). Four days after the procedure, the patient´s gastrointestinal complaints and dermopathy ameliorated. After 10 days, both, the gastrointestinal symptoms and skin changes resolved. Moreover, the Hamilton anxiety rating scale score dropped, and the onychomycosis improved.

Keywords: *Fecal Microbiota Transplantation; Intestinal Microbiota; Microbiota Transplantation; Irritable Bowel Syndrome; Microbiota And Dermatology*

Introduction

The first successful intestinal microbiota transplantation (IMT) performed in a patient with irritable bowel syndrome (IBS) occurred in 1989. From then on, IMT has become a treatment alternative for patients with IBS. Various reports have shown that IMT promotes a reduction in the gastrointestinal symptoms, diminishes the frequency of the episodes and reduces the associated skin lesions. Here we show the case of a patient with anxiety, irritable bowel syndrome and multiple gastrointestinal symptoms treated with an IMT.

Case Report

Our case is a 66-year-old male presenting with a 10-year history of gastrointestinal complaints such as diarrhea alternated with constipation, accompanied with abdominal distension, abdominal and rectal pain, nausea, pyrosis, and regurgitations. To treat these symptoms, he occasionally used pantoprazole, suppositories of mesalazine, and topical tribenoside and lidocaine rectal cream. During this period, he had four episodes of auto-limited hematochezia, developed generalized anxiety (a severe anxiety score by the Hamilton Anxiety Rating scale), arthralgias and severe onychomycosis. Moreover, a 20 cm skin rash (eczema) appeared in the right abdominal flank (Figure 1). His past medical history was relevant for arterial hypertension treated with a combination of valsartan and hydrochlorothiazide, and osteoarthritis. His mother had gastric cancer. On examination, the blood pressure was 110/70 mmHg, body mass index of 26.23 m/kg^2 and waist circumference of 116 cms. Due to the clinical picture, we performed an upper gastrointestinal tract endoscopy that showed

the macroscopic appearance of Barrett's esophagus. Biopsy results reported only mild peptic esophagitis with no dysplasia or intestinal metaplasia and a mild diffuse carditis. During the procedure, we undertook an IMT. We administered 120 ml of an intestinal microbiota preparation in the jejunum. We also performed a colonoscopy that showed diverticular disease, also, we resected three polyps, which pathology reported as tubular adenomas. In the same way, as in the endoscopy, we performed an IMT during colonoscopy. We deposited 120 ml of the microbiota preparation in ascending colon, 120 in the transverse colon and finally, 240 ml in the descending colon. After these procedures, the patient developed abdominal distension, nausea, and diarrhea. An abdominal X-ray was negative for free air. He received loperamide and ondansetron with complete resolution of the symptoms after thirty minutes. Considering the clinical picture and the results from the endoscopic studies, we concluded that the patient had IBS, gastroesophageal reflux disease with mild esophagitis and carditis, tubular adenomas and anxiety. For these conditions, he received domperidone, pantoprazole, and sucralfate.

Figure 1: *Severe skin rash in the right abdominal flank.*

Four days after the endoscopic procedures, the patient improved in the abdominal distension, nausea and diarrhea. Furthermore, the skin rash diminished about 50% from the baseline condition (Figure 2) and the waist circumference reduced to 103 cms. At the one-week time point, the patient did not report abdominal pain. The skin rash showed further amelioration (another 30% reduction) and the anxiety was better. Ten days into the IMT, the gastrointestinal symptoms and skin rash resolved. The anxiety clinical scale score was 4 out of 10.

Figure 2: *Skin rash four days after intestinal microbiota transplantation.*

In the last visit, he was feeling well, with no gastrointestinal complaints, no skin rash, and fewer anxiety symptoms. Moreover, the onychomycosis also improved.

Discussion

IMT has become a treatment alternative for gastroenterologists and endoscopists. The use of probiotics, prebiotics and symbiotics for the management of gastrointestinal conditions, including IBS, has been a mainstay for several years. Recently, the utilization of IMT has gained strength due to the increased knowledge in the microbiome, and its effects in several diseases such as IBS [1].

Several reports in the literature have demonstrated that IMT may be a treatment option for distinct diseases. Thomas Borody is one the most well-known, and experienced authors in the IMT field. His work shows that the procedure may be effective in the management of gastrointestinal disorders [2-6].

IMT has been successful in the treatment of functional gastrointestinal disorders in children. In this age group, some studies suggest that the clinical benefits of IMT are greater at a younger age [7-10]. Due to the expanding clinical research in this area, the therapeutic indications in the future for IMT may cover a wide array of disorders, such as allergies, neuropsychiatric conditions, autoimmune diseases, dermatologic illnesses, diarrhea from multiple etiologies and other [11,12].

Finally, we present a Decalogue that may be helpful in order to maintain a healthy microbiota:

1. We recommend taking just one bath a day with soap and water, without the use of bath sponges or similar instruments.
2. We suggest minimizing skin exfoliations, which may be harmful to the healthy microbiota.
3. Systematically depilating body hair may result in irreversible damage to the microbiota that protects those areas, thus, we propose the reduction of these types of procedures.
4. We recommend trimming the vibrissae, instead of using scissors or appliances inside the nostrils, since this could decrease the humidification and the protection of the native microbiota.
5. Using creams or perfume in excess may decrease the positive effects of the healthy microbiota.
6. Shaving intensively could cause damage to the healthy microbiota.
7. Introducing artifacts in the ear pavilion to clean them, may insert pathogenic microbiota.
8. Eating in excess high-fat foods or spicy food could be detrimental to the intestinal health.
9. Excessive hand washing (including forearms) can affect the healthy microbiota that lies in the area.
10. Remember "we are what our microorganisms want us to be".

Conclusion

As presented in the case, IMT is a treatment alternative for patients that report several gastrointestinal complaints or conditions such as IBS.

Conflicts of Interest

The authors declare that they have no affiliations or involvement in organizations with a financial interest.

Ethical Approval

The present report does not contain any studies with human subjects or animals performed by the authors.

Informed Consent

The authors obtained a written informed consent from the patient to report the case.

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