

Is There a Role for Fecal Transplant in IBD?

Can an effective treatment for medically refractive Crohn's disease be found in the gastrointestinal tract itself?

Dr. Alka Goyal with Children's Mercy Kansas City is exploring the role of fecal transplant as a rescue therapy for patients whose inflammatory bowel disease has not responded to traditional treatment. Early research showed that a single transplant is relatively safe and can result in a short-term response in young patients with active IBD but doesn't provide long-term relief. Now Dr. Goyal is launching a new study to help determine whether there is an advantage to a stronger induction phase for transplant, and any benefit to performing maintenance therapy for patients with Crohn's.

Dr. Goyal highlights her research findings recently published in the IBD Journal, reviews her next study and the potential it holds for patients whose disease requires longer-term effective therapy.



Featured Speaker:

Alka Goyal, MD

Alka Goyal, MD is a pediatric gastroenterologist with the Division of Gastroenterology at Children's Mercy Kansas City. She received her medical degree from Lady Hardinge Medical College, University of Delhi in India; completed a residency in pediatrics at the University of Connecticut Health Center in Farmington, and a fellowship in pediatric gastroenterology at Washington University School of Medicine in St. Louis. Her specialties are eosinophilic esophagitis, and inflammatory bowel disease.

[Learn more about Alka Goyal, MD](https://www.childrensmercy.org/profiles/alka-goyal)

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Transcription:

Dr. Michael Smith, MD (Host): So, our topic today: Is there a role for fecal transplant in inflammatory bowel disease? My guest is Dr. Alka Goyal. Dr. Goyal is a pediatric gastroenterologist with the Division of Gastroenterology at Children's Mercy Kansas City. Dr. Goyal, welcome to the show.

Dr. Alka Goyal, MD (Guest): Thank you.

Dr. Smith: Let's just start off with some nice review of inflammatory bowel disease in children. What's the prevalence and is it increasing?

Dr. Goyal: Yes, the inflammatory bowel disease actually in children has been seen to be going up in the last ten or twenty years, especially in the kids from one to ten years of age. And the incidence of Crohn's disease is increasing more than the incidence of ulcerative colitis. The incidence is about seven to ten per 10,000. So, it is affecting approximately about 1.6 million people in the United States are living with IBD and about 70,000 new cases are diagnosed every year.

Dr. Smith: So, do you have a theory, an opinion about why we are seeing this increase in children

especially in that age range I think you said one to ten? Any thoughts on that?

Dr. Goyal: We are not quite sure because in the younger age group, we feel that genetics plays a strong role and genetics have not changed but what we do observe is that it is the industrialization and foods that may be playing a role, so a few years back children used to have far more gastrointestinal infections and now the incidence of those infections have gone down. So, it is possible that the immune system does not get an opportunity to mature as they see these infections and there is a natural maturation process. That probably has been hampered by excess of hygiene. The second factor, sorry.

Dr. Smith: No, I was just going to mention that's what I think we are now calling the hygiene hypothesis, right. We are a little over sterilized, right?

Dr. Goyal: We are over sterilized. So, it is – I think it does affect the maturation process of the immune system. And I think that is a very major role of environment. We do not understand all the environmental factors, but I think our gut microbiome plays a major role in the pathogenesis of this condition. And what are the things that affect the microbiome include the food that we eat. Nowadays, we are all into the fast age, we eat more processed foods, we eat fast food and several substances used in food processing and food additives, they do affect the barrier function of our epithelial lining of the intestinal mucosa. And it also affects the gut microbiome. So, I think we are seeing a more aggressive type of bacteria in our bowels and these foods are also affecting the epithelial integrity and the barrier function of the bowel, which makes us more vulnerable to developing these conditions.

Dr. Smith: So, let's move this now into this discussion, Dr. Goyal, into treatment. How difficult is it to treat say Crohn's disease in a pediatric population?

Dr. Goyal: It is I think in today's day where we have access to some very good drugs, the majority of the kids live a very decent life, but there are a few, so it's like a Bell curve so there are some kids on the very mild side of the curve which don't need too much therapy and there are some about I would say 10% who are very severe and our medications just don't help them enough. But the majority of the patients fall in the middle which I would say are about 70-80% of our patients who do well on medications. These medications are helpful in treatment, but they do not cure this disease. And many of these medications, one of the biggest problems we are facing is that they may work for a few months and a few years but then they stop working for a child. So, that's where we run into problems.

Dr. Smith: So that then brings up this interesting topic now, right, fecal transplant. I think we have seen it in the news a little bit, there is some excitement around fecal transplant in inflammatory bowel disease. So, tell us a little bit about what fecal transplant is. How does it work? And at this point, who is it reserved for?

Dr. Goyal: Okay, so the role of fecal transplant in treatment of inflammatory bowel disease still needs to be established. I think let's start from this track. So, fecal transplant as a therapy was found to be very good for a condition called recurrent clostridium difficile infection and this infection is associated with dysbiosis which means that the balance between good and bad bacteria is disturbed and when these patients keep getting antibiotics, they do not get better. So, when they get a fecal transplant, they have an 80-90% chance of getting cured which usually lasts for a long time, mostly lifetime. And with this thought, we started thinking well, there is a similarity between recurrent C. diff and IBD because even

in inflammatory bowel diseases, many studies have shown that there is a disturbance in the balance between good and bad bacteria as well as there is a decrease in the diversity of the type of bacteria we are seeing in the bowels of these patients with inflammatory bowel disease.

And what we have not quite understood is whether this is the cause or effect of having inflammatory bowel disease. So, if say a disturbed bacterial balance was the cause of inflammatory bowel disease; then doing a fecal transplant would be like curative, right? Because we are treating that disturbed balance. But what we are observing as we are doing these fecal transplants in patients with IBD, unlike *C. diff* where once you do the fecal transplant their balance gets corrected probably for life. But in inflammatory bowel disease, initially, there is an improvement in the fecal diversity of these microorganisms and the dysbiosis, but it doesn't last forever. So, it usually wears off anytime between four to twelve weeks maybe six months at the most and then these patients have a relapse of their inflammatory bowel disease. So, at present, the studies are focused more towards giving a more intensive fecal transplant so instead of a single transplant, they would do a more – they would do a series of multiple transplants up front and those who are responding maybe needing this as a maintenance therapy, not just a one-time therapy. And that part has not yet been studied whether this is safe for patients or whether this will really help in curing their disease. Having said that, I would say that there probably will be a role of fecal transplant in some patients with inflammatory bowel disease, but not necessarily as the only treatment. It probably will have a role in an ancillary treatment for IBD.

Dr. Smith: Now a lot of what you just discussed, is that coming from the initial study that you did Dr. Goyal and I think that's going to be published soon in the IBD Journal, right? Is that so your own study you found some of this information.

Dr. Goyal: It did get published yes.

Dr. Smith: It was published. Okay, so where do you want to go next then with this? Are you going to look into whether this is a one-time therapy, is this something that's going to be maintenance, is that kind of the next step?

Dr. Goyal: No actually we are looking into doing a study with maintenance therapy so, at present, there is not much going on in terms of studies for Crohn's disease. So, we decided to look more into the treatment of Crohn's disease using fecal transplant and our protocol is under IRB's review and this will include induction and maintenance therapy for patients with Crohn's disease and we will be running a placebo trial in which some patients will get the actual fecal transplant whereas others will get a placebo enema, or a placebo transplant. And then neither us or the patients will know what they are getting so we will then have a head to head comparison between these two groups to understand whether it is effective for Crohn's disease and if maintenance therapy works or not.

Dr. Smith: Okay and so the only therapy here though is the fecal transplant. There is no other medications being used.

Dr. Goyal: That's not true. We would be keeping them on - so basically the study we will do will be on patients who are on standard medical therapies since fecal transplant is not an established treatment. We cannot just do a fecal transplant, that would be unethical. So, these patients would be the ones who were flaring despite being on standard medical therapy and are required to have a colonoscopy

recommended by their doctor as standard of care. Which means that the doctors are referring these patients for colonoscopy to assess their disease. And those patients are the ones we will be doing the fecal transplant on, but we will not be changing their medications. So, the only intervention will be fecal transplant. It won't be the only treatment.

Dr. Smith: Okay. Well what fascinating work Dr. Goyal and I'm looking forward to seeing what results you get in this new study coming out and I want to thank you for the work that you are doing at Children's Mercy. It's very important. I also want to thank you for coming on the show today. You're listening to Transformational Pediatrics with Children's Mercy Kansas City. For more information, you can go to www.childrensmercy.org that's www.childrensmercy.org. I'm Dr. Mike Smith. thanks for listening.

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