



Meconium *News*

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Issue 1

Exploring MECHANISMS Of disease traNsmiSSion In Utero through the Microbiome



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MECONIUM Study The Journey So Far

DR. INGA PETER

"We promise to continue to work tirelessly..."

Season's greetings from our humble study team to you and your loved ones. It is my absolute pleasure to be able to report some successes for the MECONIUM (Exploring MECHANISMS Of disease traNsmiSSion *In Utero* through the Microbiome) in our first ever Holiday Newsletter!



The MECONIUM study aims to identify particular bacteria passed from an expecting mother to the baby during pregnancy in health and disease.

MECONIUM Study - The Journey So Far cont.

DR. INGA PETER

“We strive to engage as much as we can with the community to better understand the issues that affect them and tailor our research efforts accordingly.”

Over the last year, we have recruited **261 families (69 with inflammatory bowel disease, or IBD, and 192 without)** for a total of **584 individuals** and hundreds of various biological specimens. We have presented our findings at national and international conferences and submitted 2 abstracts. To date, we have had **148 babies born** to participants in the study!

We participated in community events such as

- ✦ *The CCFA NYC and Brooklyn Take Steps for Crohn’s and Colitis walk-a-thon fundraisers attended by hundreds of physicians, friends, and family members of IBD patients.*
- ✦ *We were present at the Brooklyn Baby Exposition in October*
- ✦ *We received the prestigious Dean’s Healthcare Team Science Award for the MECONIUM Study*



Dr. Torres, Dr. Colombel and Dr. Peter with the Deans Award

We are very excited to share our initial results with you. We found that there was a significant difference in the composition of the gut microbiome between control patients and IBD patients (Fig. A)

Additionally, this difference is further highlighted by the infant stool and meconium in babies born to mothers with IBD suggesting that the colonization begins in utero.(Fig. B). We aim to further investigate how long these

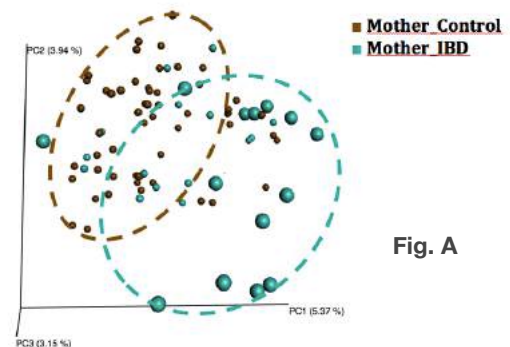


Fig. A

differences in microbial flora persist within the newborns and to identify any particular strain(s) that would help limit IBD transmission.

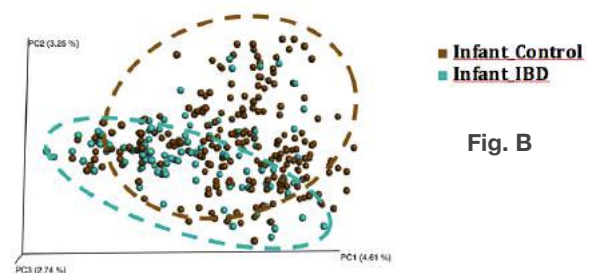


Fig. B

This study would not be possible without your participation and dedication. I am very grateful for your support of our research and promise to continue to work tirelessly to find the ways to identify bacteria that trigger the development of healthy immune system in the fetus and reduce risk transmission of diseases from the mother to the baby. May you all have a wonderful festive season! Best wishes from the Meconium Team.

SPOTLIGHT

Q & A with

Dr. Joana Torres



Dr. Torres is a licensed gastroenterologist and a trained expert in clinical IBD research who was born and raised in Braga, Portugal.

During her fellowship, Dr. Torres traveled to France for three months to learn more about clinical IBD research where she worked alongside Jean-Frédéric Colombel, a world-renowned gastroenterologist and expert in IBD research.

In 2011, after working together for three months, Dr. Colombel invited Dr. Torres to work in the Department of Gastroenterology at the Icahn School of Medicine at Mount Sinai in New York City as a fellow.

Clinical Research – why is it important?

Clinical Research looks into solving questions that remain unanswered and that are important for our patients. Through clinical research we are able to better understand diseases, what causes them, how they can manifest and the best way to treat them. Therefore, clinical research, spanning from clinical trials to translational research, holds the possibility of generating findings that can truly change the lives of our patients.

What drew you to research?

I always felt that research makes me a better physician. By doing research in IBD I think I gained a much deeper understanding of the disease, of all the unanswered and important questions ranging from its causes to its treatments, and that itself makes communication with my patients more informed and much richer.

What has your experience with IBD research been like and how does this reflect on your time with the Meconium Study?

My experience with IBD research at Mount Sinai has been amazing.

The IBD team at Mount Sinai is composed of top-level physicians and scientists. The projects are cutting-edge and innovative. I feel very fortunate to have had the opportunity to spend some time involved in research here. The MECONIUM Study was undoubtedly the most important project I was involved while I was at Mount Sinai. I can say I carry this project in my heart. First because I learned so much with every aspect of it, from patient recruitment to sample management and data analysis, and then, because the study team is absolutely extraordinary and composed of people that are passionate and

extremely dedicated to the project, and put a lot of emphasis on team work.

Why do you think this research is important?

I think the MECONIUM Study has the potential to lead to groundbreaking discoveries that will surpass the field of IBD. We are one of the few groups in the world following babies longitudinally since their birth, collecting information on their environmental exposures, diet, and exposure to medications, in trying to understand how that affects their gut microbiome development. Additionally, and to my knowledge, we are the only group following IBD pregnant women and their babies, and trying to understand the changes in their microbiome. We know that what happens during early childhood (and pregnancy) may be important in determining IBD risk; therefore, by the end of this study we will have accumulated very important information that hopefully will bring us some insight into key pathogenic events that may predispose one to the disease.

Where do you see IBD research going and what are your future plans?

There is a huge interest in the field of IBD on preclinical disease. Indeed, there are several different but complementary projects at Mount Sinai, including the Meconium Study that explore this phase of disease. I think



Dr. Jean-Fred Colombel and Dr. Joana Torres

this is a very promising field. If we are able to improve our knowledge about key events that may trigger disease development, or earlier changes in the immune system that precede disease, we may be able to develop ways of predicting disease in at-risk populations, and ideally to develop strategies to prevent it!



L-R: Jean-Fred Colombel, Joana Torres, Brian Hu, Inga Peter, Caroline Eisele, Nile Nair



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