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Dr. Elena Verdu: Unlocking the mysteries of our gut bacteria

Dr. Elena Verdu's fascination with gut bacteria has led her around the world.

Initially trained in Internal Medicine at the University of Buenos Aires, Dr. Verdu travelled to Switzerland in 1991 to receive further training in gastroenterology and clinical research at the University of Lausanne.

The move from her native Argentina to Switzerland helped inspire Dr. Verdu to pursue the line of research that she continues today.

"I came from a medical background, and suddenly I was exposed to this fundamental interaction between gut microbes, dietary antigens, and how they impact the host at the basic level," she said.

"At that time, the exciting discovery in gastroenterology was that there was a bacterium that was found to cause peptic ulcer disease. You have to imagine the times – the question in the wind really was, "What else could bacteria cause in gastroenterology?," she said.

Dr. Verdu was drawn to McMaster in 1996 due to its Intestinal Diseases Research Program, and what she calls the "cross pollination" of scientists and clinicians – a rarity at that time.

"This program was looking at gastrointestinal disease from so many different angles. This was the beginning of the maturation for me as a scientist in gastrointestinal diseases," she said.

Today, Dr. Verdu's research largely focuses on two diseases – celiac disease and inflammatory bowel disease (IBD). Recently, her research has uncovered that there is a link between celiac disease and IBD involving how our gut bacteria reacts to the foods we eat.

Dr. Verdu explains that certain amino acids, like tryptophan, are metabolized by our gut bacteria – and when that happens, they release certain substances called metabolites that will protect our intestinal lining. Dr. Verdu's research has shown that patients with celiac disease can't easily process tryptophan, but adding good gut bacteria that can process tryptophan can ultimately help treat patients with celiac disease. The major discovery of

this program of research showed that this same pathway is also seen in IBD.

This particular research project could have major implications for the way we treat these diseases – both of which are becoming more common among Canadians.

"What interests me is whether there is a common pathway between these two diseases – and could bacteria be the link between the two of them?," she said. "If we understand the root causes of these diseases, and why this increase is happening, we can then intervene preventively – or we can devise therapies that are going to be more efficacious."

Dr. Verdu's research is continuing to focus on investigating the root causes of chronic intestinal inflammation, and looking at how nutrition can factor into this.

Her biggest piece of advice about maintaining healthy gut bacteria? Do your own cooking, eat a variety of foods, and avoid foods that come in a box.

"In general, if I have to give one piece of advice, I would say do what my grandmother or great grandmother said, which is to eat a little bit of everything," she said. "Eat a variety of food that can stimulate richness and variety in your gut microbiota." ■

