

Prof. Christopher L. Bowlus: what should we need to focus on autoimmune liver diseases in the foreseeable future?

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Expert's introduction

Prof. Christopher L. Bowlus (*Figure 1*) is the Division Chief of Gastroenterology and Hepatology, Internal Medicine, UC Davis Medical Center, USA. He received his bachelor's degree from UC San Diego in 1985, and his medical degree from St. Louis University School of Medicine in 1990. During 1990–1993, he completed his internship and residency in internal medicine at the UC Davis Medical Center.

He completed his fellowship training in gastroenterology and hepatology at Yale University School of Medicine. For his dedication as a physician specializing in autoimmune liver diseases, Prof. Bowlus was awarded the Postdoctoral Fellowship Award by the American Liver Foundation in 1994. In 1998, he joined the UC Davis Medical Center as an Assistant Professor where he has been promoted to Professor and currently holds the Lena Valente Professorship.

Prof. Bowlus is a Fellow of the American Association for the Study of Liver Diseases, American College of Physicians, and the American Gastroenterology Association.

Prof. Bowlus is interested in elucidating the underlying genetic and immunologic causes of autoimmune liver diseases and using this information to develop more effective treatments for these conditions. He specializes in autoimmune liver diseases, specifically primary biliary cirrhosis (PBC), primary sclerosing cholangitis (PSC), and autoimmune hepatitis. He also cares for patients with hepatitis B.

Prof. Bowlus has a philosophy of care, which is technology has led to tremendous improvements in the care of patients, but the physician's most important tool remains the ability to listen.

On the 7th of December 2019, Prof. Christopher L. Bowlus attended the 4th Pearl River International Academic Conference on GI Disease and Cancer in Foshan, China, which was co-organized by the 7th Affiliated Hospital of Sun Yat-sen University and shared his perspective on what we need to know about autoimmune liver diseases in 2019 (*Figures 2,3*). He received an interview from the editorial office of *Digestive*



Figure 1 Prof. Christopher L. Bowlus.



Figure 2 Prof. Bowlus is on the speech.

Medicine Research (DMR) after the speech (*Figure 4*).

Introduction

DMR: Based on your excellent speech, “What do we need to know about autoimmune liver diseases in 2019”, could you please share with us on researchers should focus on and which aspects of autoimmune liver diseases in the foreseeable future?

Prof. Bowlus: The main point of my talk focused on PBC



Figure 3 Prof. Bowlus is on the conference.



Figure 4 Prof. Bowlus is in interview.

and PSC. What the first thing we have to do in PBC is the diagnosis, understanding that the criterion is pretty straight forward in terms of requiring an elevated alkaline phosphatase and anti-mitochondrial antibody or a liver biopsy.

In most cases, patients have an anti-mitochondrial antibody, so a liver biopsy is not needed.

There are rare cases that do need a liver biopsy because they do not have the anti-mitochondrial antibody, or there is concern about overlap with autoimmune hepatitis.

The second thing we have to do is ensure appropriate treatment of patients with PBC, and understand that most patients will do fine with their standard therapy of ursodeoxycholic acid.

However, we shouldn't be satisfied with patients whose liver tests are not normalizing, because they still have the risk of progression of their diseases even if they don't have any symptoms. Fortunately, for those patients, we do have other options for treatment. In general, what

remains an essential area of research is developing or identifying new treatment for the subgroups of patients with PBC.

In addition, patient with PBC has several symptoms that are not well controlled, such as itch (also known as pruritus) and fatigue. Controlling symptoms is vital to patients, but treatments are inadequate so far.

Developing new treatment and controlling symptoms well are two fields of autoimmune liver disease research that needed to be addressed.

Regarding PSC, we are really in desperate need of an effective therapy for these patients, and several promising drugs are being evaluated. These are also open opportunities for research, and particularly the microbiome and even specific microbes may be involved in the generation of PSC, which have been identified by recent publications that we reviewed.

So, the field is wide-open in PSC. From my point of view, PSC is going to be seen more frequently in China and other countries where inflammatory bowel disease is becoming more frequent, and PSC will follow in the coming years.

Generally, I think those aspects that I addressed are going to be great prospects for the next generation.

DMR: *I heard that you had launched a SIG program, could you please share the advance of the program with us?*

Prof. Bowlus: Yes. The SIG program stands for Special Interest Group, which is a part of the American Association for the Study of Liver Diseases or AASLD. Various special interest groups bring together people focusing on specific areas of liver research.

The SIG program that I chair focuses on cholestatic and autoimmune liver diseases, which has several functions. A lot of what the SIG does has to do with educational program development, such as the program for the annual AASLD meeting, called The Liver Meeting, as well as other focused meetings. We also have a global outreach subcommittee tasked with increasing the involvement of people throughout the world in our special interest groups, form collaborations, increase information-sharing, education, and so on.

On the one hand, what we learned in the US may not apply in other countries; while what people learn in other countries may be helpful to what we are doing in the US.

It's important for us to enhance our interaction and share information. That's the reason why we launched the SIG program and built an online community where people can present challenging cases and discuss them.

DMR: *Looking back on your successful career, what inspired you to become a doctor?*

Prof. Bowlus: To be frank, I did not decide to become a doctor until fairly late in my education. I was always interested in science. Molecular biology was what first really excited me at an early age.

As I began to do more training in how molecular biology might be applied to human health, I decided to go to medical school. Later I enjoyed the interactions and relationships developed with patients, and it became evident that medicine was the right fit for me. Although I was not born thinking I was going to become a doctor, it came to me later in life. It's been a natural progression.

DMR: *Have you ever met any challenges or impressive cases in your career?*

Prof. Bowlus: Every day! Since my interest has always been in science and I enjoy solving puzzles, the problematic cases were always the types of challenges I like. That is one of the reasons why I have been focusing on autoimmune liver diseases because those cases tend to be complicated and challenging.

For example, I have a patient who is a 70-year-old woman female diagnosed with hepatitis C many years ago and had a liver biopsy about a decade ago which showed no significant fibrosis. Two or 3 years ago her hepatitis C was successfully treated and at that time a FibroScan also showed her liver was normal.

Now she presents with ascites. Other than fatigue and weight loss, there wasn't anything else going wrong. Her ALT had been going up a little bit from a baseline of about 18 up to about 80.

I felt that some of her symptoms were concerning and the rapidity of her progression to cirrhosis and ascites in such a short period suggested that something was going on. I recommended to her that liver biopsy was necessary and it showed that she has autoimmune hepatitis, even though her serum markers were negative. She is now on treatment and has markedly improved.

I see cases like this every day, where you have to think

about all the possible diagnosis and different challenges.

DMR: *What do you think are the necessary qualities to be a physician in Gastroenterology and Hepatology?*

Prof. Bowlus: Regardless of whether in gastroenterology and hepatology, firstly, you must be empathic, care for your patients, understand their feelings. The physician is serving the patient, the patient is not there for the physician. That's the most important philosophy to me about being a physician.

Moreover, you also have to be curious and intelligent. To some degree, intelligence may be overrated to be an excellent physician. You'll be going a long way as a physician or in any other field if you have enough compassion and curiosity.

When you get into hepatology and gastroenterology, you have to split your brain into two different thinking modes. The hepatology thinking mode is very compulsive and detail-oriented, which means you need to make sure you're checking every box and looking at every little detail. For the gastroenterology one, at least in the US, you still have to be thoughtful. Though there are procedures involved in endoscopy, the dexterity and thinking immediately when you may not have all the information to make split decisions are also needed.

All in all, to be both a gastroenterologist and hepatologist, you must have a split personality or be able to have both types of intelligence. That is what makes an excellent physician.

DMR: *Could you give some advices to the young generation entering this area?*

Prof. Bowlus: First of all, be sure what you want to do. Find what you are hoping to be doing for the rest of your life. What seems exciting and new for the first six months may become old and routine ten years later.

And find an area that you want to be an expert within the field of gastroenterology and hepatology.

For young people who do go into the field and do like studying diseases and treating patients, they must get a good understanding of general medicine, from malignancy to infectious diseases, endoscopy, and all the rest.

Last but not least, learn things outside of medicine so that you can relate to your patients better.

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