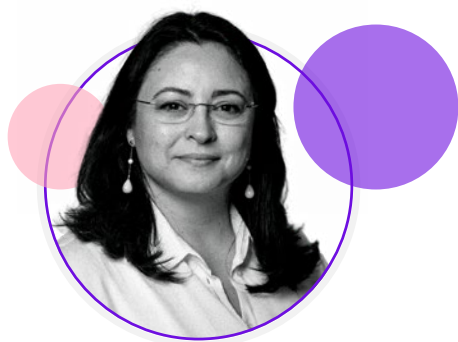




Congress Interview

For Ana Lleo, a career in hepatology began almost by chance and grew into a passion for understanding some of the liver's most complex and overlooked diseases. In this interview from the European Association for the Study of the Liver (EASL) Congress 2026, she talks about the challenges facing patients with autoimmune and biliary liver diseases, why earlier diagnosis matters, and where she sees the biggest opportunities for progress. From the need for better, safer treatments to the potential of immunology and new biomarkers, Lleo offers an insightful look at what could shape the future of hepatology.



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Q1 Your work has focused heavily on autoimmune and biliary liver diseases, particularly primary biliary cholangitis. I know you trained in the division of Clinical Immunology and Rheumatology, but what first drew you to this area of hepatology, and what still motivates you today?

I must say that, initially, it was random. I was unsure what I wanted to do, but I loved internal medicine. When I did my rotation in hepatology, I really loved it, because the liver involves many processes in the body and I found it very intriguing. I also realised that, in the beginning, liver diseases are mostly silent, so, in the majority of cases, people are often diagnosed too late. That was something that attracted me to liver diseases, and I started there. I had been passionate about immunology for a long time, and my first interest was clinical immunology, so the two of them matched together perfectly in autoimmune liver diseases and

cholestasis. I wanted to do a PhD, and the opportunity I found was in that area, and I became very passionate about it. I also have to say that the community was amazing; I made good friends. All of this combined meant that I enjoyed my job very much and it became a passion.

What motivates me today is that the more patients I treat, the more I realise how many patients I can help, because their diseases are less common. There are many unmet needs, and I feel the responsibility to help as much as I can.

I feel like a lot of the focus is on MASLD and metabolic dysfunction-associated steatohepatitis, but not as much on the biliary side of liver diseases.

When I started, focus was largely placed on viral hepatitis. It was a huge unmet need, because, at the time, people were dying or having transplants because of

hepatitis B and C infection. Now, MASLD is a main area of interest because of its frequency.

Q2 You've spent much of your career trying to translate discoveries from the laboratory into clinical practice. I recently read an interesting paper on immunosuppressants and recompensation in patients with autoimmune hepatitis with cirrhosis. Where do you think we are seeing the biggest breakthroughs right now in autoimmune liver disease research?

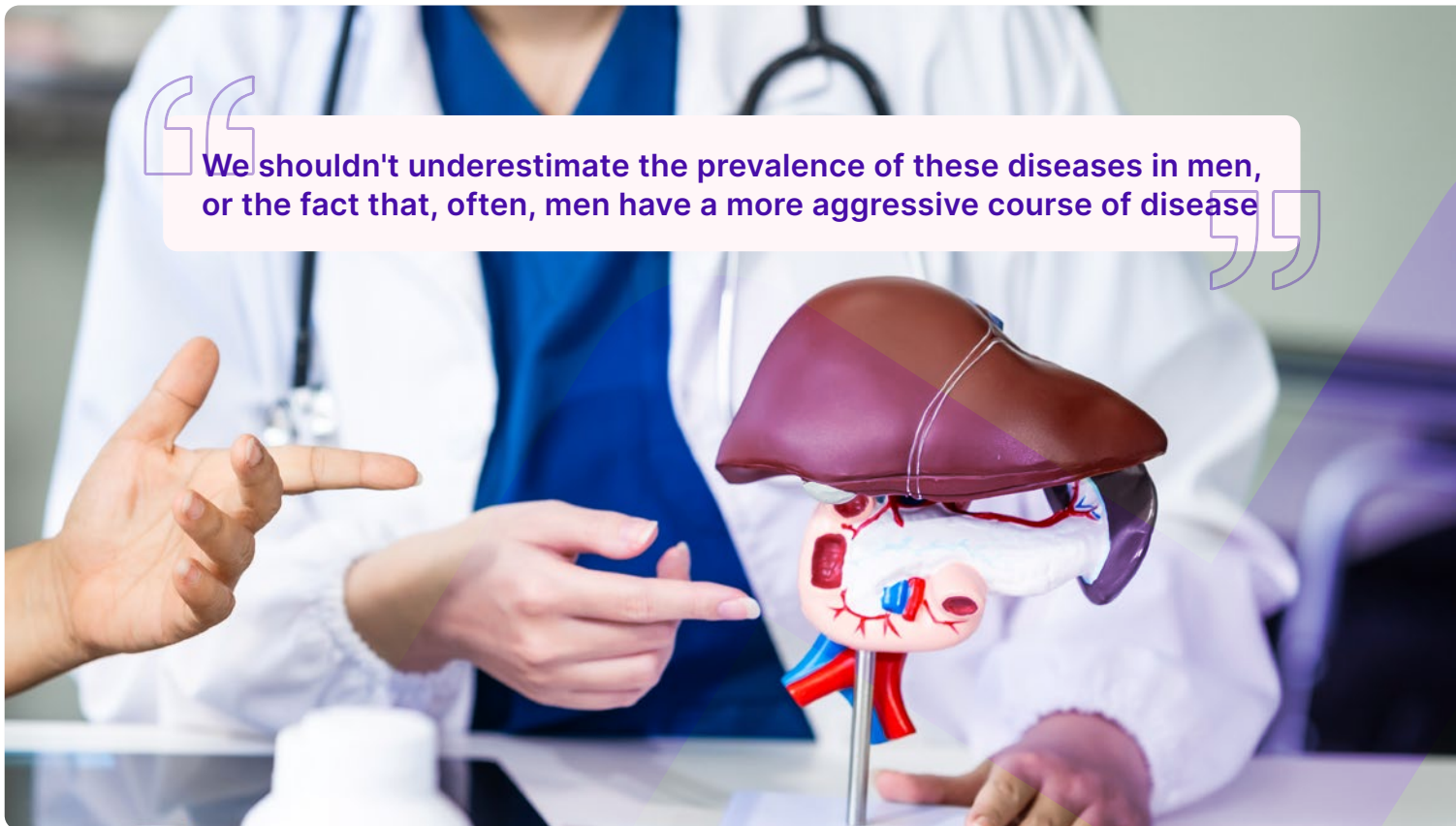
The article you mentioned was a collaborative effort. One of the fundamental requirements in rare diseases is collaboration and a strong network. You need to put together the data and the expertise from many parts of the world to have meaningful research, results, and data that can help you to validate the best way to treat

patients. In autoimmune liver diseases, mostly in autoimmune hepatitis, I believe we still have a primary unmet need: we use very old drugs, like steroids or azathioprine, that have lots of side effects, and people really have a hard time dealing with that. I believe that's one of the things we need to work towards improving in the upcoming years, so that we can offer patients better treatment with less side effects that don't have that huge of an impact on quality of life. A chronic disease diagnosis is never easy, because you deal with it your whole life, and you are afraid, questioning: 'Is it going to get worse?', 'Am I going to die from this?', 'Am I going to have complications?', 'Are my children going to suffer from it?' There are so many questions we don't have answers to. On top of that, there is the possibility of side effects from the drugs, which can impact quality of life greatly.

Q3 Autoimmune liver diseases clearly show a strong female predominance. In your experience, how well do we understand the biological and hormonal or immunological drivers behind these sex differences?

We still know very little. There are studies that have been done on the X chromosome, and hormonal replacement. There are some data, but we still don't know the exact pathogenesis or the exact reason why females are more affected, and that's common to the majority of autoimmune diseases in general. One of the most important things here is that we shouldn't underestimate the prevalence of these diseases in men, or the fact that, often, men have a more aggressive course of disease. Sometimes, if you are not an expert, you may exclude the disease because the patient is not a female, and that's a huge risk. We have seen huge delays in diagnosis in men, because the

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disease is not suspected in them. So that's something we need really to disseminate awareness of if we want to see men diagnosed and treated as early as possible.

Q4 Biliary disorders can sometimes receive less public attention than other major liver diseases. There's also a broader discussion in the field about visibility of hepatology research within general gastroenterology literature. Do you feel these conditions receive enough attention in research, publications, and funding, or is there still a gap that needs to be addressed?

I think hepatology in general is a little bit mistreated, because it doesn't really exist as a discipline. There is no specific training in hepatology, and, in many European countries, there are no fellowships or programmes that really allow you to qualify as a hepatologist. Then, if you dig deeper into hepatology, of course, there are some diseases that have more attention than others. Biliary diseases are a little bit forgotten because they are less common. Some of them, such as primary sclerosing cholangitis, have a very aggressive course in younger patients. Even if patients have

a transplant, often the disease reoccurs after transplantation. So, that's a huge unmet need. On the other side, the fact that we now have some therapies available has helped a lot, because when you have a therapy available, you need to have a better understanding of who is the best patient for it, and who's going to truly benefit from that treatment.

I think funds from the EU, charities, or the ministries of health in different countries are still very limited for these diseases. The majority of funds are for cancer, and it is hard to really have research funds for these patients. So I think there is an unmet need, because the less common a disease is, the less attention it attracts. It's understandable, but it is still something we have a hard time with. If you think about diseases like autoimmune hepatitis or primary sclerosing cholangitis, there is still very limited funding available. There are other biliary genetic diseases that are often diagnosed at paediatric age, but that may have also a later onset. That's something that we need to be aware of and that we need to get to know better, and for that we really need funding.

It's quite sad because, from my time here at Congress, I've seen that a lot of biliary liver diseases can increase risk of cholangiocarcinomas, and then with alcohol there's the risk of hepatocellular carcinoma, but the funding only begins when it reaches that point, instead of treating the issue.

That's a really important point. We need to avoid reaching a stage that is very difficult to reverse. When you have already developed cancer, when you have already developed advanced cirrhosis, this is not where treatment should start. The treatment should avoid people getting to this stage.

Q5 Looking at cholangiocyte biology and the liver's innate immune pathways, how do you see immunology reshaping the future of hepatology over the next decade?

That's a very difficult question! There is so much we have learned over the past 2 decades in immunology. For instance, cancer treatment is now greatly shaped by immunotherapy. We have learned how the immune system interacts with the tumour or the other way around. Now, we have ways to potentiate that





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immune system that sometimes gets modulated in the opposite way. We would like the immune system to attack the tumour that has become invisible to the immune system, so we use immunotherapy to reshape those mechanisms. For some diseases, like autoimmune hepatitis, which is a truly immune-mediated disease where the modulation of the immune system is key, we need to learn more, and the more we learn, the more likely we will be able to treat that disease.

In some other diseases, we know that the immune system has an impact, but we still don't know if it's the main driver of the development of the disease. I'm thinking here about primary biliary cholangitis or primary sclerosing cholangitis, in which we know that the immune system is somehow affected or has an influence in the progression, but it's probably not the main driver. The main driver is probably within the cholangiocyte for primary biliary cholangitis, and in the interaction with the gut in primary sclerosing cholangitis, but there are many things we still don't know. We also need to know not only how to modulate the immune system, but what are the pathways in that specific disease that are altered, and that can then be used to the advantage of the patient. If I think of how that will influence the way we treat patients in the next decade, I think for autoimmune hepatitis, it will be a game changer. For other diseases, it's probably not what's going to truly change the fate of patients.

Q6 As both a clinician and a researcher, what do you see as the biggest unmet need today for patients living with autoimmune or biliary liver diseases?

Awareness is one thing which I think is missing; awareness in the community to really give the attention to these diseases and to the patients that they deserve, but also awareness in general practitioners when it comes to identifying those 'alarm signs'. For instance, if you see an elevation on the liver test, don't under evaluate the relevance that can have. Dig deeper, because it is very important to rule out liver disease. In the majority of cases, it's the general practitioner who should refer the patient to the hepatologist as soon as possible. Very often, the patients are told: 'you need to lose weight, you need to stop drinking, and everything will get better'. In some cases that's true, but in others, that could lead to a delay in diagnosis that changes the prognosis of the patient. So, I think we need to work closer with general practitioners. For rare diseases, it's very difficult, because if you put yourself in the shoes of the general practitioner, it's not like they can know everything. It's understandable that sometimes you may miss cases, mostly because the patients are not symptomatic; they may feel perfectly well and it's just a matter of biochemistry. Then, it's the job of the specialist to tell you how relevant that is. So, I think awareness in the medical community in general is

another thing that's missing, as well as funding. We need funding for research, and it's very limited here.

I think it's an interesting point that so many people are asymptomatic until it's very severe, because I read a paper from the north of Mexico, where more than half of the patients who were diagnosed with liver disease were already in decompensation.

Absolutely. If you think about autoimmune hepatitis, a third of patients who are diagnosed are already cirrhotic, when they never knew they had the disease to begin with.

Q7 As the European Association for the Study of the Liver (EASL) Congress 2026 ends, are there any sessions, themes, or late-breaking presentations that have particularly stood out to you this year, especially in autoimmune or biliary liver disease research?

I'm happy to see how prolific the community has become and how much new data we have available. We are digging deeper into the prognostic factors, for instance, for autoimmune hepatitis, and the definitions of the disease. We have new treatments for pruritus, as well as a lot of data on real-world evidence on how the new peroxisome proliferator-activated receptors (PPAR) agonists in primary biliary cholangitis are being used, and the results in a real-life setting besides the clinical trials. So these are very exciting times; we also have new biomarkers for cholangiocarcinoma in patients with primary sclerosing cholangitis, which is another unmet need. I truly believe that there are a lot of data to study after the congress.