The HBV Refresher: Screen, Diagnose, Treat

CMEO Podcast Transcript

Kris Kowdley:

Hello, I'm Kris Kowdley, on behalf of CME Outfitters, I would like to welcome and thank you for joining us for episode one of a four part CMEO cast series on best practices to improve screening and treatment of hepatitis B. Today's episode is titled *The HBV Refresher: Screen, Diagnose, Treat.* This activity is brought to you by CME Outfitters, an award-winning accredited provider of continuing education for clinicians worldwide. As I mentioned, I'm Kris Kowdley, director of the Liver Institute Northwest in Seattle, and clinical professor at the Elson S. Floyd College of Medicine at Washington State University.

And I'm really delighted to be joined today by my colleague, Su Wang. Su is the president of the World Hepatitis Alliance, and the medical director for both the Center for Asian Health and the Liver Center at St. Barnabas Medical Center in Florham Park, New Jersey. And she has been a tireless advocate for education, screening, and awareness of hepatitis B. Welcome, Su.

Su Wang:

Thank you.

Kris Kowdley:

To frame today's episode, let's start by reviewing our first learning objective, which is to implement routine screening protocols for HBV in the primary care setting, and utilize results to drive guideline directed care. So, let's begin with a quick overview of the global impact of HBV.

Su Wang:

Sure. So, globally, hep B is one of the most common infectious diseases. It is got a wide distribution of geography, we believe 257 million people are living with hep B, these are WHO stats. There's some other stats that say it could be up to 290 million people. The greatest burden globally is in the Western Pacific Region where 68% of the burden in the world is in the Western Pacific Region. And I think something to keep in mind is that even though in the US, our overall prevalence rate maybe low, less than 1%, but when you look at different pockets of populations, so people from the Western Pacific Region, people from the African Region, which is the second most effected, this is where we see it in the US.

So, it doesn't appear to be an issue when you look at our national statistics, but when you start looking at the more effected burdens, you see that those populations in the US are reflecting those kind of prevalence rates. And in the US what we find is more than 50% of people living with hepatitis B are actually Asian Americans. There's growing awareness that the African diaspora in the US is also greatly affected, and there's a great need to do more screening and awareness there, too. But you see with this geography just kind of where the largest burden is, and then the South-East Region or SEARO in WHO is the third most impacted.

Kris Kowdley:

Well, thank you for pointing that out. Clearly, screening is an important component of detecting and subsequently reducing the burden of hepatitis B virus. Can you tell us some of the global and national efforts to eradicate HBV that are currently ongoing?

Su Wang:

Sure. So, I am currently the president for the World Hepatitis Alliance, we are a patient-led NGO. We are in official relations with the WHO. We are working really to lead kind of the movement on hepatitis elimination in partnership with so many different collaborators, and raising awareness from the ground up. And you're right, screening is that first step that we're missing, because until we identify people, we cannot intervene, we can't monitor them, we can't treat them, we can't even vaccinate them often. As adults, we often prefer to screen before we vaccinate. And in the scope of hepatitis B, that is where the biggest gap is. So, we believe globally only 9% of those people living with hep B have actually been identified.

In the US, it's higher. We think that two thirds of those living with hep B have been identified, but those are still significant gaps. And so, our big message has been, for the past three years, this slogan, find the missing millions. And that is just where we need to be to kind of drive elimination. Our rates of liver cancer have been globally on the rise, and nationally in the US, they've been on the rise, and we believe at this larger because much of the gaps in screening for both, hep B, hep C, other liver issues such as NASH, fatty liver, but for hep B, this is something that we have the diagnostic tools for.

I think we're in the middle of COVID, we realized that testing is so key, having efficient low cost available tests, and that is something that we do have for hepatitis B. So, we just need to really scale up.

Kris Kowdley:

Yeah. As you know, we published this paper in 2012, suggesting that particularly, among the foreign born, the hepatitis B burden may be underrecognized, and it probably continues to be underrecognized, and may contribute up to 800,000 to even a million people in the US. So, clearly, a lot of work remains to be done. Focusing on the US, what do you know about detection rate and subsequent treatment of HBV? This would seem to be a huge opportunity.

Su Wang:

Yes. So, this is kind of what we talk about as the cascade of care, right? How to identify people, and then, how are we providing the continuum of care that they need in terms of continued evaluation after they've been identified, and in treatment, and then even staying in care? I think we realized with hep B, this is very different from hep C, right? Where now you're basically cured after eight to 12 weeks, and then you're done with your cascade of care. But for hep B, it's an ongoing thing.

So, basically, it does matter what the national screening strategies are. So, when you compare, hep B to say like HIV... All right. So, we have a diagram here of a pie chart where we're looking at the total population of people affected for HIV and hep B. For HIV, let's say 1.2 million people have HIV for US, this is the estimate, 1.4 million. Probably it's either somewhere a little higher than that. Especially based on the stats that your publication showed, when you really extrapolate those who are most effected, there's a good chance the numbers are much higher. But what we want to look at is the difference in our strategy for screening.

Su Wang:

So, for HIV, as of 2004, it's been the strategy to screen a one-time HIV test for all adults. It doesn't matter your risk factor, what exposures you have, but everybody 18 and over should have a one-time screening test. And what you see that is, the majority of people with HIV have been identified, they know their status. Not necessarily all of them in care, but you can see that it's about half. Obviously, we'd like it to be more, but it is a pretty big chunk of people who are aware and in care. Or, sorry, it's actually more than 50%. There's quite a bit of people who are aware and not in care, which we see with any disease, but at least the vast majority of people are actually aware of their disease.

So, in contrast with hep B, the problem is, we believe that only two thirds of the people or so are actually aware. And of those who are in care, we don't have as many. And for those who are actually treated, it's actually a very small amount. So, this risk-based screening strategy we don't think is really working, and we've seen it evolve with hep C. So, hep C, for a while, it was the cohort strategy, anybody born between 1945 and in 1965, that's since been updated to be a one-time test for hep C. A lot of us advocates are really pushing for the same for hep B too, that everybody should know their status, there's opportunities for vaccination, and this would allow us to really identify more people living with hep B.

Kris Kowdley:

Yeah. So, given that, maybe the next question is not a great question because I think the answer should be, everybody should be screened for at least vaccination, immunity, or exposure in my opinion as well. But until we get to that point, how should a primary care clinician think about, who do they have to screen for hep B?

Su Wang:

Yeah. This is a good contrast for us to kind of look at. Well, if you're not doing universal screening, who are the people who fall into what we consider... For now, this is what the USPSTF recommends for screening, these are kind of what we consider the high risk groups, and like you can see here, it's a lot of people, right? If you were in med school and you had to learn all these groups... There's actually more than this. This is just kind of the top groups that are indicated. But if you look at the guidelines, it's this long list, and a number of us have done these kind of rough calculations.

And if you kind of combined all these groups, okay, so people born in different... These endemic countries, injection drug users, men who have sex with men, patients who may have conditions that require immune modifying therapy... So this is for potential reactivation risks. So, anybody with hep C who's on DAAS, or anybody who has rheumatoid arthritis and might be on an immunomodulator, somebody who has cancer and might be on some sort of chemotherapy, and the next, person's with elevated ALT, AST of unknown etiology... I mean, we know that's actually very, very common nowadays in primary care. Any blood or tissue donors, pregnant women... It's like half the population could be eligible.

Infants born to hep B infected mothers, hemodialysis patients, household and sexual context of hep B infected individuals, HIV positive individuals. And some of the other big groups are people with multiple sex partners. And then, one of the categories is, anybody who wants to know. If your patient comes and says, "I really want to get tested," there was no reason you shouldn't be testing them. And one of the biggest questions we get from physicians, which unfortunately, I think sometimes we as physicians are the barrier, because we're worried about, is it going to be covered? Are they going to complain? Am I going to know what to do with the results? But it is something that ACA covers as part of preventative care for insurance plans that are under the ACA rules.

Su Wang:

So, this is important for doctors to know. But as I was saying, if you combine all of these groups, it ends up being like 80% of the population, right? So, rather than make it very difficult to screen, because what happens is people will fall through the cracks, right? We all know that. Just like we thought, if you could identify people who are at risk for IV drug use, you would be able to screen for hep C, but it was a failure. We're horrible at assessing risk. We don't like having those conversations. And people don't want to be assumed that they're at risk, and it's just easier if we say, "This is just a one-time test for everybody." This is how you close an epidemic, right? This is how you get us to elimination, is by doing that.

And we may not need to do this. We do it right, by 2030, we could be rid of hep B and we won't be talking about this anymore, right? That would be the goal. And then, we can move on to fatty liver or another disease.

Kris Kowdley:

Yeah, no, that's exactly right. In hepatitis C, I think one of the most important things that happened obviously, starting with the cohort strategy, was avoiding this discussion about embarrassing questions, and then doing the test, as opposed to, we're just going to test everybody, and it just made the whole thing so much simpler. So, let's say we are now in a world where we've got public health policy, it's covered, everybody's convinced that we should screen, the next question is, how do you screen? And can you share with the audience evidence-based algorithms on who to screen, and went to pursue further evaluation and management?

Su Wang:

Sure. So, the screening panel for hep B is three tests for kind of the complete screening, it's hepatitis B surface antigen, antibody to this hep B surface antigen, and then antibody to the hep B core antigen. In this one, we should always specify that this should be an IgG or a total core, not the IgM. So, some people will order... Unfortunately, Quest and LabCorp have these like hepatitis panels that are not necessarily adequate or the right test for hep B. So, we have actually been trying to advocate with some of these national labs, just to make obvious what the screening tests are. And I noticed in one of the national lab books, they call it the pre-DAA hepatitis panel. And it's basically the right test, it is the right three tests, and I just thought it was funny. I was like, "Well, why can't you just call it a hep B screening panel? Why does it have to be pre-DAA?"

Because it would obviously be the panel that you would order for any kind of screening that you do. So, I would be careful because sometimes if you order the massive panel, it actually might include hepatitis E antigen and it might not have the IgM... I mean, it might have the IgM instead of the IgG. But if people ever have questions, just look at the CDC website. Do not order the test because you're not sure which ones to order. So, there's always a quick way to look, and then CDC is kind of an easy way to find it. And then, in terms of the algorithm for what you do when the test comes back, I think it's easy in that anybody who has hep B surface antigen positive is infected.

So, it's a little bit different from hep C, if people are familiar with hep C, where you're looking for the hep C antibody, but then you need to confirm it with the RNA to know if it's a current infection. For hep B, it's easy, if the surface antigen is positive, that person is currently infected, and then we would do further testing and evaluation. So, if their surface antigen is negative, that indicates they don't have a current infection. You then look for the core to know if they'd been exposed before. And if they'd been exposed, if the core is positive, then... Actually, so the way this algorithm has it, is then you would look at the antibody to see if they're immune or not.

Su Wang:

And if they're not immune, then it's easy, then basically you just vaccinate them. But if they are immune, and they are core positive, that shows that they were infected in the past, but they are now immune, and they have the antibody. But you know what? We often tell people just so they realize, is that, you still have cccDNA within your liver, and there's a very small chance of reactivation if your immune system ever gets really suppressed. This core element often is very confusing for people, it's very confusing for doctors. I get a lot of consults for people who have core antibody positive, and they think that they're currently infected, and people are panicked.

But I do think that because reactivation can be a really bad outcome in people, that it is important for people to know this, because sometimes specialists, oncologists are not always aware, or may not also order the right test, and it's important for a patient to recognize that so that they can be their own advocate. So, that's my spiel on the core antibody. And if they're a hep B... If their core is negative and their surface antibody is positive, that means that they're immune, but they were never exposed. So then, you know that they've been vaccinated. And those people are great, they're fine, it's nothing to do with them. They will not ever reactivate, they're just immune. And you don't need to give them a booster in the future either, which is often a common question.

Kris Kowdley:

Yeah, I really liked the way you laid that out, because people often talk about the alphabet, Su, then it's very confusing, but it's really three things you need to know, is the surface antigen positive or not? Is the core antibody total positive or not? And then, is the patient immune or not? And the e is really not relevant to the screening part portion of the discussion. Now, you have strong feelings about this and you've been an advocate for setting up screening programs and health systems, and I have personal experience with this.

We've talked about the importance of screening, we've talked about how a point-of-care screening may be done by an individual practitioner, what about in group practices or health systems, are there some tips that you've learned from your own experiences of teaching others and putting programs into place about how to use scale-up screening in a way that's meaningful?

Su Wang:

Sure. This is where the rubber meets the road, right? We know the recommendations, how do we make it happen? Right? There are a million recommendations for so many diseases, and as a primary care doctor, we're all pulled in a million places in trying to do the right thing for our patient, but also have very limited time with our patients. So, the goal really is to build it into the structure and the system of your practice. So, as much as it can be integrated into your clinical workflow, it's really important.

Obviously, nowadays with EMRs, there's so much potential to really scale up on a wide scale. I mean, we can educate doctors till we're blue in the face with things like this, but we know it only reaches a small percentage. Kudos to everybody who's listening to this webcast because we know you'll remember this and you'll make changes. But a lot of people don't even recognize that they need to know how to screen this. And so, the more that you as an audience member can advocate this to be included, you're making a big difference for the population who really needs it.

I mean, it can be really simple things. I mean, some people will say, "Well, I don't have an IT team that can make everything friendly to hep B." Which I get. I used to work in New York City at a FQHC called Charles B. Wang Community Health Center, which served the population in Chinatown.

Su Wang:

Obviously, in a largely Chinese population, hep B is super common, it was as common as hypertension. So, of course, we were going to put a great focus on hep B, and we really developed a huge EMR presence, module for hep B, where we had flow charts that were dedicated to hep B, we had prompts. If somebody missed their screening ultrasound, it would say, "Ultrasound overdue by however many months." If it had been more than a year, we had reminders for vaccination, and we had a whole page on education tools for hep B.

So, it's all doable, and obviously, needs a lot of effort. I do think that it would be great if EMR companies really invested in that, and that way, if you were in a place of a high burden, you could flip that switch on and use that module. I think we really should need to advocate for that. But there are a lot of other small things that every doctor can do. For example, I have an EMR now... And now I'm not working at the FQHC, I'm working for a larger healthcare system, which has a much broader audience, and so hep B is not going to be one of its top priorities.

But there are things even I can do. So, I can make a favorites in my order set that has those three tests in it. So, I make my life easier, I basically just hit that order set whenever I order the hep B. And it doesn't matter what the code is for Quest or LabCorp, I'm just detailing it. Obviously, you can do that with Quest or LabCorp, or whatever lab you're using as well. And that just helps minimize errors and avoid unnecessary tests. And those things are like... As doctors, we can all create our own favorites in our folders, in EMR, and other people can take our favorites.

So, I think with any of these EMRs, there's probably ways of sharing best practices like that. So, in other ways, to kind of systematize it, integrate with other infectious disease screening. So, as we were just talking about, Kris, you just say, "This is part of our protocol." You're a new patient, you're here for your [inaudible 00:20:41], your physical exam, you know what? We're going to do HIV, hep B, hep C, hep A, because there's been this epidemic, you have a way to protect your liver from three different diseases. And honestly, we'll talk about this being liver cancer prevention.

But with COVID-19, everybody's interested in that too, so we just call infectious disease panel if they want an antibody test, and just talk about the importance of... This is how we curb an epidemic, is we have to identify people, and then people get less concerned like, "Oh, why are you singling me out?" And so, we've had good luck with that, and I think... Then, it puts the doctor in the mindset of, I'm not just looking at hep B, right? Because that's the problem. There's too many disease specific kind of recommendations, but I'm just doing this viral disease panel that is important for the patient to do at some point.

And then, some of the other successful EMR strategies have to do with identifying people who are born in an endemic country. So, our emergency room, we were able to do a really great program where we started documenting country of birth. So, this is something that was already in our registration form, there's a space for country of birth, but it was never required. We actually made it requirement for the registrars to ask, and we made it easy for them, we created a dropdown menu. It's auto-complete, so if you don't know how to spell Kazakhstan, it just pulls it up for you. And then, we programmed that all the endemic countries of birth would then lead to an automatic surface antigen test ordered if the patient ended up getting blood work done, right?

So, if you're just in there [inaudible 00:22:09] sutures, you're not going to get an extra blood draw. But if you're there for something else, and they're doing blood work anyway, we're going to add this on. So, this has been very eye-opening. Kris, you were talking about how... Because we don't have good surveillance in the high endemic areas in the US, we think our surveillance estimates are probably short, right? So, even if you look at... What do we collect? We usually collect race, right? We don't collect country of origin. But if you look at race, somebody who's black could be Black African, Black Caribbean, or black from the US, right? And those are different risk profiles when it comes to hep B.

Su Wang:

And so, when we started looking at country of origin, it ended up being like a community needs assessment for a hospital, because we had no idea that we had so many Haitians, that's the number one country of origin for hep B screening, it's Haiti, Dominican Republic, Guyana... We didn't know we had so many Guyanese, yeah, Portuguese, and then a lot of West Africans, we have Ghana, and then we have India and China, and it's just this like amazing hodgepodge of people from all over the world.

And it just tells you a lot about your own community, and you realize that, oh, this is the targeted way to approach people. What's also important is, how do you integrate this with the efforts of your healthcare system? Right? So, every healthcare system at this point is really focused on diversity and inclusion, right? Those are like buzz words, right? We want to serve the communities around us, and we want to make sure people are represented. And so, this is a diversity and inclusion effort, and this is something that... That's some way to kind of piggyback off other efforts that your hospital system is into. So, it's like a win-win, check off two boxes, kill two birds with one stone. So, that's one way to really go about it.

And then, the other thing is cancer prevention, so this is... Our hospitals started looking at our liver cancer rates, and our cancer center realized that we have really high rates of stage IV liver cancer. So, 30% of our patients coming in with a diagnosis of liver cancer are already in stage IV. So, that was alarming to us because I think the national average is 13% or something of stage IV upon presentation. So, that also made it like, "Oh, this is actually a real need in our area, we need to screen people for all liver diseases." And what we're trying to teach our primary care doctors is, we don't blink an eye at ordering a mammogram or colonoscopy for a patient, right?

So, I am not a breast surgeon, I am not a GI doctor, but still I thought it is within my scope to screen a patient for breast cancer, right? If they have something abnormal, then I would send them to the breast surgeon. I send them to GI for the colonoscopy, that's what I do during the physical, even though I'm not the one conducting the colonoscopy. So, I believe hep B screening, hep C screening, fatty liver screening, all should be like, "Okay, let me go through my breast cancer screening, colon cancer, prostate cancer. Oh, liver cancer screening, let's get your hep B, hep C fatty liver tests." And people understand liver cancer, nobody wants cancer, right? So, if you can tell me, "Oh, I can help you prevent cancer." "Sure, screen my hep B, hep C for fatty liver."

So, I think some of it is just a mind shift, right? Rather than think about, oh my gosh, I'm not a hepatologist, why would I want to learn about hepatitis and screen for hep B and hep C? So, I think we need to promote this as like liver cancer screening. So, that's my main message, and I'm hoping that the primary care societies really pick up on that as well.

Kris Kowdley:

That's fantastic. I think it's a really new way of looking at things from the standpoint of cancer prevention, it's certainly one of the bedrock principles of primary care practice. And when you tie that in with screening for hepatitis, it all makes a lot of sense. So, I think continuing this theme of the primary care provider taking and embracing, and having agency in terms of screening, I also think that the treatments for hepatitis B, and of course, hepatitis C, but we're talking about hep B today, are simple enough that a primary care provider should be able to treat patients. With that in mind, can you walk us through some of the guideline recommendations for treatment?

Su Wang:

Yeah. So, I think often what happens is, when somebody gets diagnosed with hep B or say your patient comes in, they never had the diagnosis, right? We think, "Oh, that's a specialist area, I'm not going to do anything with that." But I would challenge people to really think, there are things within my scope that I can do, and actually to be confident and say, "You know what? As a primary care doctor, I actually can do a good job, because my patient sees me quite a bit." I see them for their diabetes and their hypertension. They like it if I could help them in something like this, especially since with a specialist, they may have a difficulty finding somebody who is really an expert at hep B, or they may have a really high copay, or maybe a geography issue.

And maybe while I'm seeing them for something else... Actually, because I'm already seeing them for diabetes, I'm doing comprehensive panel, I could say, "[inaudible 00:27:24]," by also doing the hep B test. So, I think we just have to also shift our mindset and say, "Hey, there are things that I can do that are reasonable, and not that hard actually. And if it gets beyond my scope, then I can refer out."

One of my examples is diabetes, we all treat some level of diabetes. I treat prediabetes. I do not send every diabetic to an endocrinologist, because there's an element of what I can do. I can start Metformin, I can protect their kidney, I can start an ACE inhibitor. Maybe I'm not comfortable with insulin, but there's quite a number of people who don't need insulin, who I could treat. And it's the same with hep B, not everybody is going to need treatment. I can at least do the tests. Or even if somebody does need treatment, I can help with the liver cancer evaluation... I mean, the screening. I can order an ultrasound every year when I'm ordering their mammogram, that way, when they go to the radiology side, they can do both together, they don't need to make separate visits.

So, I think the approach is, you know what? See your patient. If you've found out that they're hep B positive, take a look, look at cirrhosis, right? That's our first thing, cirrhosis, yes, cirrhosis, no. If they're cirrhotic, I'm most likely going to refer them out. But you can counsel them. As primary care doctors, we're excellent at counseling, that's one of our main things that we do, lifestyle counseling. So, for somebody with hep B, you will counsel them about alcohol use, about use of herbals, and things that could be insults to the liver, right? You would be doing that anyway for other prevention strategies. I would ask about family history of HCC, you're already asking about family history. You would check for hep A vaccination status.

And in terms of labs, most of these labs, you're already doing a CBC, you're evaluating whether they have anemia or low platelet count. The CMP, you're looking at the AST, the ALT is like the main indicator. So, these are tests you're already doing. You would look at bilirubin, [inaudible 00:29:21], albumin, creatinine. And people with low albumin we think may have more issues with their liver, INR. And not all these have to be done all the time, but at least just initial evaluation.

And then, for the serology tests, you would have already done [inaudible 00:29:37]. You would then do the e antigen e antibody, the viral load test, a hep A, as we had talked about you, hopefully we do that anyway upon screening. And then, you would screen them for hep C, HIV. And now we're recognizing that Delta is becoming more of an issue. I wouldn't let that be a hangup. If you're not comfortable ordering it out, I think it's also okay. I don't do that in every patient.

And then, we would do for the HCC screening and ultrasound. And potentially, if your imaging center has an elastography machine or a fiber scan, you could assess for cirrhosis that way. But even any of these steps, even if you don't do all of them, is something. And I think patients are very appreciative when you can offer them more services than not, I feel like.

Kris Kowdley:

Sounds great. When do you start treatment, and what are the recommended initial therapies?

Su Wang:

So, there's some great recommendations that... Some guidelines that came out, and mostly based out of AASLD guidelines for hep B treatment, but these are geared towards primary care. So, these were released last year, so March of 2019, where we basically really simplified the management strategy for patients with hep B with the mindset of hepatitis as primary care doctors. And just so you know, there are a number of us primary care doctors who are treating hep B. And if anybody is ever interested in learning more, there are different echo programs kind of popping up, and more CME kind of events like we're doing today, so you shouldn't feel alone. It's very satisfying and gratifying to learn how to treat hep B, just like it is for hep C.

A lot of the counseling, as we talked about, is something that we would do anyway, and I think as primary care doctors, we do a great job. And then, the question is, yes, does my patient need treatment? And how would I know? So, I'm just going to pull out this algorithm, which... It's just a little bit simpler than what you see in the AASLD guidelines. And basically, the first question is, is this patient's cirrhotic or not? If there's evidence of cirrhosis, either by blood tests or the ultrasound, then that person needs to be treated no matter what. It doesn't matter what the viral load is. That's actually easy, they need to be treated.

And we would actually refer them to a specialist for continued management, for screening endoscopy, if they're not decompensated. They could still have their hep B managed to some level, or at least monitored by a primary care doctor. But that patient would need a higher level of monitoring, including HCC surveillance. And then, for those who are not cirrhotic, what we were trying to also make it easier to do, is take the e antigen out of it too, because that often ends up being a barrier. So, if you look at AASLD guidelines, it's a little bit more complicated, and the cutoff is a little bit different based on your e antigen.

And this, I would say, if you look at guidelines such as EASL and APASL, that e antigen is not as big. So, basically, I think we were seeing more evidence that there may be inflammation even at lower viral loads, and certainly at even borderline ALTs. So, the way this algorithm looks, is that if you have a viral load of over 2000, and the ALT is elevated... And if you're not sure like, "Oh, it was just a one-time flu," definitely monitor your patient for a couple of months. If it went up and then went down, it's like less than 25 for men, and in the [inaudible 00:33:27] for a woman, then we know that they're okay. But if they're in the high 20s, low 30s, that's actually considered elevated.

And you would monitor them if you start... I mean, we do have patients in the 40s that still fall within that normal range, like in LabCorp or Quest, but if you follow their... And I think this is where the benefit is of being a primary care doctor. I have lab results for my patients for years, I know what their ALT was like from five years ago. So, I can tell Mr. X, "Your ALT five years ago was 20s, it's been in the 20s, and then it's just slowly crept up 30s, 40s. You're not on any medications, you've gained weight. We're worried that your liver is being affected. Or maybe they didn't gain any weight, so we have no reason for why their ALT would go up, in terms of excluding fatty liver.

But we really think that you have inflammation of your hep B, and the viral load is over 2000, and those are people who would be eligible for treatment. And then, those who have completely normal level, obviously there's a number of people who are completely inactive in the carrier phase, and those people might have completely undetectable viral load, maybe just a couple of hundred. Their ALT is soundly, I mean, we have patients like 12, 15, 9, those are people I feel very comfortable with, they don't need treatment.

Su Wang:

So those are people I'm comfortable also saying, "You don't need to see a hepatologist, I will just continue to monitor your viral load, ALT. You remain in the hundreds undetectable, and your ALT is normal. You can stay here in the primary care setting. And then, for those who are... Viral load under 2000, but ALT is high, that puts us down a little bit of a different path, where we want to make sure that we rule out other causes for elevated ALT.

And this is actually a thing that primary care doctors can do, because we are treating a number of these metabolic syndromes anyway. So, you're basically looking at, does this patient have hyperlipidemia? Are they prediabetic? Are they diabetic? Do they have what looks like could be fatty liver? Because at this point, that's often the most common cause. But you could obviously roll out other viral etiologies, or autoimmune hepatitis. Or if you really can't figure it out, this is where a hepatologist would be helpful to kind of rule out some possibly more rare conditions. But if their ALT is normal, like I said, and their viral load's under 2000, they are somebody that you can continue just to monitor in your setting.

So, that's kind of like the overall breakdown, and I think quite a number of those patients could remain with their primary care provider, or at least, with a consultation, but then we can continue to follow you, unless something changes.

Kris Kowdley:

Yeah, no, that's a great overview and very intuitive in the way you outlined it. So, can you guide us now through the available treatments for the initiation of therapy-

Su Wang:

Sure.

Kris Kowdley:

And any special consideration in terms of management, or other things that you might want to point out?

Su Wang:

Yeah. I try to keep it simple, especially for primary care doctors in that... So, I do say, even though the treatment guidelines can kind of seem complicated, there's really only three options in my mind for treatment, and it's entecavir, tenofovir, TDF, and there's tenofovir alafenamide, which is the newer version of Vemlidy. So, there's two versions of tenofovir, and then entecavir, which are the first line oral therapies, once a day, very well tolerated, very few side effects for people.

And what I tell a lot of primary care docs is, you're so used to treating people with hypertension and diabetes where there's a million options. We're not talking three, there are at least 20 diabetic medications I think about and try to choose from. Hypertensives, there's a million combinations, single, so it's not like we are not familiar with complicated regimens for patients. So, I tell them, "Well, hep B is actually quite easy." Because there's really only two medications, and one of them is those two formulations of the similar drug.

So, with entecavir, it comes in two doses, it's 0.5 and one. It is been around for a long time, it's generic now. I find that the biggest issue with it is just that you have to take it on fasting, on empty stomach two hours before and two hours after.

Su Wang:

So, that can sometimes be a challenge for people, but a lot of my patients will take it at night, so that... They'll take it at night several hours after dinner, and they're definitely not eating after bedtime, so it's not much of an issue. And then, if they had issues with tenofovir, we do get questions about, "Oh, but I had heard that there was some kidney issues, or bone density issues," if are people worried about that, we may choose entecavir.

But tenofovir is very safe, and we use it in pregnant women, and it's been around for a while now. TDF is now available as generic. So, if there are cost issues, or formulary issues, TDF is often more affordable. I also let people know, if your insurance still charges the big copay, it is available even without... It's quite affordable now actually even if you don't have insurance coverage, you can get it from Costco, or you can get it from a number of mail order pharmacies who are able to offer it at a low cost, even if you don't have insurance.

And TAF or Vemlidy is more concentrated in the liver, it's a lower dose. The results show that it's less issues with bone density. But we do have to worry about... Both versions of the tenofovir are just... Keep an eye on people who have chronic renal disease and their creatinine clearance. But overall, that's it. I would say, it's much less complex than a lot of the diabetic meds that I give to my patients.

Kris Kowdley:

Oh, that's a great summary. So, thank you for providing us with a great discussion on opportunities for screening, diagnosis, management, and primary care setting for chronic hepatitis B. Now let's close with our SMART goals, that is specific, measurable, attainable, relevant, and timely goals. So, Su, what key messages do you hope primary care clinicians listening today will take away from this podcast?

Su Wang:

So, I think one of the first ones is that, during routine practice, we want to basically identify patients [inaudible 00:40:04] should be screened for hepatitis B. [inaudible 00:40:07] advocate that if they've never had it done before, that it's very reasonable to at least figure out somebody's status and see if they need vaccines, or if they are actually infected. Or if they're immune, and then you can tell them that they're immune, and that's important for them to know as well.

Obviously, next step would be, in order to do that screening, what are the actual tests that we screen with? And we talked about that being the hep B surface antigen, hep B core antibody, IgG [inaudible 00:40:34], and then hepatitis B surface antibody. And then, in terms of the next step after that, is knowing that there are good algorithms out there for determining which patients should be started on a treatment initiation.

Kris Kowdley:

Perfect. Thank you, Su. To receive CME CE credit, click on the link identified here to complete the post-test and evaluation online. Thank you for joining us today for episode one of our four-part CMEO cast series. To view additional episodes on community-based efforts to improve screening and treatment of hepatitis B, please visit cmeoutfitters.com. Thank you again for participating, and thank you for providing the best care for your patients.