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Released: 06/13/2024

Valid until: 06/13/2025

Time needed to complete: 56m

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MASLD in My Clinic: Hiding in Plain Sight?

Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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Dr. Eckel:

Hi everyone. This is CME on ReachMD, and I'm Dr. Robert Eckel. We're going to discuss how to identify [metabolic dysfunction-associated steatotic liver disease], abbreviated as MASLD.

Ultimately, there are risk factors for the generation of liver disease in patients with obesity, and one is, very importantly, their body weight. But also increasing age is relevant. Gender is important; men seem to be more susceptible up to a certain age. And then in the post-menopausal period, women are at increased risk for fibrosis of the liver. And ethnicity and genetics are both important. And although genes play a role, they play a minor role in some patients and a major role in others, but almost all patients have, in fact, risk factors that go beyond the ones just mentioned, including insulin resistance, which is part of obesity, and ultimately relates to where body fat is distributed, mostly intraabdominal. And from there, the fatty acids that are generated within the abdominal fat go to the liver and create insulin resistance in the liver, which relates in fatty liver disease and also the overproduction of triglycerides by the liver, all part of the insulin resistance syndrome.

We can't forget that alcohol may also be important. And we know that alcohol, when consumed excessively, causes liver disease in its own right, but ultimately, a modest amount of alcohol can also be a contributing factor to MASLD. Then the gut microbiome is undergoing increasing studies in terms of its relevance to generation of fatty liver disease. And then there are epigenetic mechanisms; in other words, mechanisms that relate to the impact on our genes that really go beyond simply gene structure and gene expression.

Now, ultimately, again, I mentioned insulin resistance, which is very, very common in obesity and type 2 diabetes. And this is a situation which can be modified now by effective weight reduction. And you'll be hearing about that in more detail in other episodes to follow.

Now, ultimately, the importance of body weight is really very relevant, in that over 90% of people with MALFD or MASLD have overweight or obesity, with only 10% of people not having excessive body fat. Again, so important is excess body weight in this major health problem of our times.

And if we look at people with type 2 diabetes, which is most commonly the type of diabetes we associate with fatty liver disease, ultimately, over half of the patients with type 2 diabetes have fatty liver disease or MAFLD. So keep in mind that obesity before type 2 diabetes, which is present in almost all patients with type 2 diabetes, is really a major factor contributing to excess body fat accumulation.

Now there are other factors that lead to more progressive liver disease, and that includes inflammation, and that's part of the insulin resistance syndrome in the liver. And then there are other things that relate to this that contribute to the insulin resistance, including defects in adipose tissue production of protective cytokines such as adiponectin, but also the mechanisms that occur in the hepatocyte

or the Kupffer cells directly that relate to an abnormal accumulation of bone marrow-derived Kupffer cells that are not really intrinsic stellate cells within the liver, per se.

So this interaction between multiple factors really is part of the, MAFLD and MASH to follow that relates to more serious liver disease. And it's important to think that weight is one thing, but it's not entirely the weight itself, but it's all the factors that contribute to this.

Now, if we look at advancing liver disease, which is really an active form of inflammation within the liver, and progression to cirrhosis, if we look at people with type 2 diabetes, you know, a large percentage of them have MASLD, but those that are risk for MASH is a lesser percentage, but still up to 15%, and the progression to cirrhosis is a 1/3 of those. But this is still very relevant data to keep in mind, because progression to more serious liver disease is really the paradigm of treating these people early.

So MASH, again, is characterized by an active hepatocyte injury, and inflammation is mentioned in addition to the steatosis which is so common in fatty liver disease to begin with. The test to assess fibrosis can be evaluated, and those will be discussed subsequently. And ultimately, the idea here is prevent the progression to more end-stage liver disease in hepatocellular carcinoma.

So to close, metabolic associated steatohepatitis in liver disease is increasingly recognized as a common complication of obesity and type 2 diabetes, and is a precursor of more advanced liver disease, including MASH and cirrhosis to follow.

Thank you so much for your attention.

Announcer:

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