

Transcript Details

This is a transcript of a continuing medical education (CME) activity. Additional media formats for the activity and full activity details (including sponsor and supporter, disclosures, and instructions for claiming credit) are available by visiting:

<https://reachmd.com/programs/cme/the-impact-and-importance-of-iron-status/15127/>

Time needed to complete: 29m

ReachMD

www.reachmd.com

info@reachmd.com

(866) 423-7849

The Impact and Importance of Iron Status

Announcer:

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

Prior to beginning the activity, please be sure to review the faculty and commercial support disclosure statements as well as the learning objectives.

Dr. Munro:

Hello, this is CME on ReachMD, and I'm Dr. Malcolm Munro, a gynecologist from the University of California, Los Angeles. And here with me is Dr. Michael Auerbach, who is a clinical professor and hematologist from Georgetown University.

So, Michael, we often hear about the importance of adequate iron status. What we want to talk about today is iron physiology and how iron is important and then how it actually functions in our body. What can you tell us?

Dr. Auerbach:

Well, the most important thing iron does is enable hemoglobin to carry oxygen. But the biology of iron is incredibly complex. Iron is important for mitochondrial function, it's important for cardiac function, but most importantly, it's important for bone marrow function. And why it's critically important is really not known to most people. It's the commonest malady on Earth. It affects almost 3 billion people. It affects more than 50% of pregnant women and sometimes 90% depending on the country. And anemia at any week in pregnancy has been shown to be associated with a statistically significant increment in autism spectrum disorders. It is an amazingly under-recognized clinical problem.

Dr. Munro:

Tell us about hepcidin. What is that, and what is its importance?

Dr. Auerbach:

Hepcidin is secreted by the liver and is controlled genetically. If you don't have hepcidin, you have the very well-known disorder hemochromatosis. So hepcidin goes up to block iron from coming in and utilized, and it goes down when you have adequate iron. The problem with hepcidin is that it's also an acute-phase reactant, and it goes up with inflammation. So in any disorder, hepcidin is likely to be elevated, decreasing the utilization of iron by blocking its absorption and release from circulating white cells that act as reservoirs.

Dr. Munro:

What does hepcidin do just after somebody takes a dose of oral iron, for example?

Dr. Auerbach:

I think it's a game changer in terms of the way we treat patients with oral iron. When a normal person swallows an iron tablet, the hepcidin goes up immediately. It peaks at 8 hours, it stays elevated until 24 hours, and it's back to normal at 48. So it literally locks its own absorption.

Dr. Munro:

So can you take us through what the types of effects that iron deficiency may have on individuals who are not pregnant, to start with?

Dr. Auerbach:

There are a host of symptoms; there are an enormous number. However, the major symptoms are fatigue; difficulty sleeping with restless legs syndrome; craving for ice called pagophagia; difficulty concentrating, often referred to as brain fog; impairment of exercise tolerance and exertional dyspnea; and weakness. And many of these symptoms occur in the absence of anemia, the mechanism of which is not necessarily clear.

Dr. Munro:

And so a person can have all of those symptoms and still have a normal hemoglobin.

Dr. Auerbach:

It's one of the more serious problems in American medicine, because the patient will come in, ask how his or her iron is, the doctor will look at the CBC [complete blood count], see that it's normal, and say, "Your iron is fine." If you do that to a presenting pregnant woman, you're right half the time and wrong half the time, such that 50% of iron deficient presenting nonanemic women are iron deficient.

Dr. Munro:

So, Michael, could you talk to us about the impact of iron deficiency on pregnancy?

Dr. Auerbach:

Iron is necessary for normal development of the fetus. In the first trimester, the need for iron is about the same as the nongravid state. But as the second and third trimester ensue, there is a 5- to 10-fold increment in the need for iron for the developing fetus and the placenta. The amount of absorption that is required for that is more than is usually obtained on a diet, and iron supplementation is necessary.

Dr. Munro:

So that's what we have for this session. Thanks so much for listening. See you next time.

Announcer:

You have been listening to CME on ReachMD. This activity is provided by Omnia Education and is part of our MinuteCME curriculum. To receive your free CME credit, or to download this activity, go to ReachMD.com/Omnia. Thank you for listening.