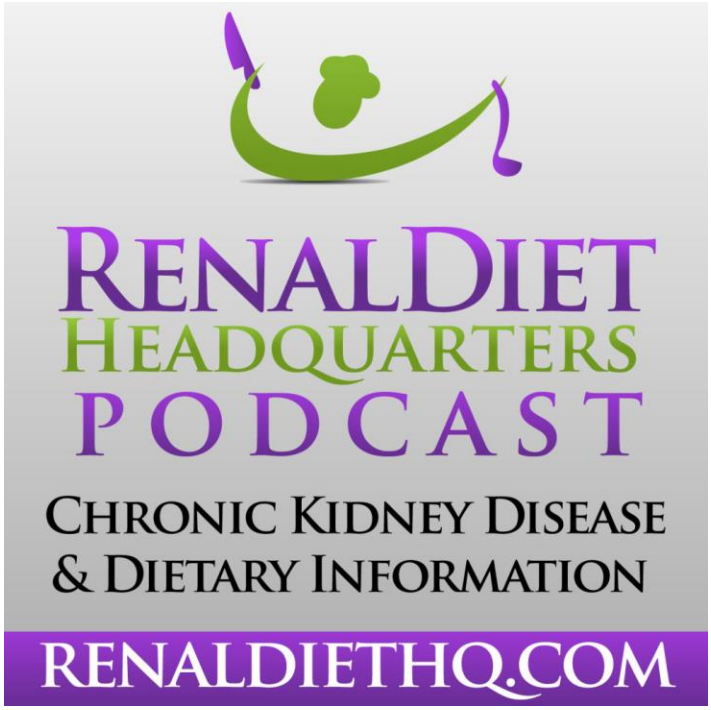


Hello and welcome to episode number 37 of the Renal Diet Headquarters podcast, this is Mathea Ford, your host.

Episode number 37, we are talking this week and this month about anemia and chronic kidney disease.

It's something that is very prevalent in having the disease that you have problems with anemia. And mainly that's because your kidneys actually have a lot to do with how many red blood cells and how much red blood cells are made in your body. And then your red blood cell counts are very important to how much energy you feel and how much oxygen gets to your muscles and allows your body to do the things that it needs to do.

So I wanted to start out this week with reminding you that we have the AAKP meeting coming up and also that we have a new product, The Caregiver Guide, that is about taking care of people with chronic kidney disease and kind of what to expect and what things that could happen, things that will happen along the way. It also has some stuff about aromatherapy and about reflexology and massage and in general in the back it has some really great worksheets to help you manage the process of being a caregiver much more easily. So I encourage you to go and look at that , if you have a chance. I think I have a link to that in the show notes and you'll find the show notes at www.renaldiethq.com/037. Again that's /037, you'll find information and links there.

This information is also easily found in my book on Amazon. It is book number 11 of my series about kidney disease and it's called Anemia and Chronic Kidney Disease. Strangely enough, and I'm going to kind of talk to you about some of the things that in there but there's a lot more information in the book. And I will put a link to the author page in there, so you can go to Amazon and find it.

Let's start out with... What is anemia? Because I kind of hinted around that it has to do with red blood cells. But anemia is basically when the body is unable to make an adequate amount of red blood cells for your body. So everybody knows you have red blood cells, and you need them for transferring oxygen around to the rest your body, especially your vital organs like your heart and your brain. And the oxygen then

performs functions in your heart and your brain and your muscles to help you use the sugar in your blood; glucose in your blood, to help you process and get energy out of food, and when you don't have a lot of red blood cells available, that means you don't get enough oxygen; that mean you can't process the things in your body to give you energy and so you probably have lower amounts of energy. They have problems... those can be problems especially for your heart, your brain, your kidneys.

When you have chronic kidney disease, it can be a problem for you because the hormone erythropoietin usually called EPO, but it is erythropoietin in the body or you might have an iron deficiency, if you're not eating a lot of meat. During the later stages of chronic kidney disease you tend to eat lower amounts of protein that will give you a chance to have a lower amount of them iron in your body. So that's going to affect you significantly. And what you need to understand is that your body gets new blood cells every 90 to 120 days. And it usually recycles a lot of them but a lot of the times you may lose them, you may have blood test drawn a lot. And you may... if you're on dialysis you certainly lose blood in the dialysis process. If you're doing hemodialysis, there's some that's lost or some that are damaged.

So erythropoietin is created by the kidneys. So when your kidneys are not acting good or not processing things well. It's actually going to affect how much erythropoietin is generated. This hormone causes the bone marrow to create red blood cells. So red blood cells are actually made in your bone marrow... in your... especially in like your leg bones and some of your upper arm bones, your hip bones, but your body is waiting for that signal from the erythropoietin to tell it to make more red blood cells. Kind of makes more on a regular basis but... if you need a higher amount because you're losing more blood or something like that.

Unhealthy kidneys do not make very much erythropoietin and that causes the next step in the cycle to not occur. So the chain of events would be like something like you develop chronic kidney disease, overtime as your kidney worsen, you make less erythropoietin and then that causes your body to make fewer red blood cells. And then less oxygen is available for your body parts because you don't have as many red blood cells. And then you start getting the symptoms of anemia. So the thing started happening quite a bit before you got the symptoms of anemia, which is why it's kind of harder to catch up to because you've got to get everything to catch up. To start making again.

Your iron levels in your body are important, most of your iron is in hemoglobin, and that's a protein that transports the oxygen in your blood. You might find out that you have anemia if its iron deficiencies is going to be because a low levels of hemoglobin. You also can have other vitamin deficiencies that can cause anemia. But it's important that you know your body's iron levels when you're doing the processing to determine what type of anemia you have, so that the doctor knows how to treat it.

Some of the common blood test that they do are like hematocrit hemoglobin. So hematocrit tells them the volume of red blood cells and hemoglobin tells them how much hemoglobin iron capacity you have in your blood. Serum Ferritin is another type of vitamin... it get carries and it can affect your vitamin status and your iron status. Your total iron binding capacity, if your iron binding capacity is high, that means that you don't have enough iron. If something is bound to iron, so to speak, that means that the hemoglobin is bound and it has an iron attached to it that means you're using a lot of iron. If you have a high amount capacity that means that you don't have enough irons to bind all those things that need to be done. So it's important to know what that level is and you have other tests.

Serum Ferritin like I was talking about a minute ago. Ferritin is a protein that sticks to iron and assist in the body in the storage of iron. So your body usual stores certain amount iron, not just in red blood cells in other areas. And normal values are you know anywhere from 12 to 300 ng per milliliter of blood. And women are like 12 to 150 ng per milliliter of blood and if you have dialysis, it could be a different number.

So if you're low, it could mean that your body doesn't have enough iron reserves. You need to think about and help your doctor to determine whether it's an iron deficiency or another type of vitamin deficiency. It's kind of that vitamins B6 and B12 are also important but B12 and B6 is foliate. The shilling test is used to determine if body is properly absorbing the vitamin B12. Vitamin B12 is processed in your body in an interesting way. B12 when you eat it... it goes into your stomach and you have something that's called like an iron activator... I can't remember the exact name of the thing that's in your stomach. But in your acids, and it activates B12, and then your B12 goes throughout your intestinal track and is then reabsorbed toward the end of your small intestine/ large intestine and... It is absorbed into your body not actually reabsorbed. It's absorbed into your body at that point. So if it was not activated in your stomach, because of the non-acidic environment, say you're taking lots of Prilosec or other things that decreased the acid in your stomach, you may not be activating that B12. You could have a B12 deficiency.

I've known a lot of people who have this problem because the take a lot of those Nexium, Prilosec whatever and so if the B12 is never activated your body is not going to absorb it at a later point in digestion. So it's just going to go right on by. So you need to make sure that they are checking your B12 levels and see if you have a B12 deficiency as well. They can give you shots for that, or they can help you determine what medication you may need to take.

Foliate can cause... Folic acid deficiency, which is enlarges your red blood cells makes them kind of big and they are just can of infective that way. So you need to know in general what it is that is the type of anemia that you have. You may be

wondering to yourself, you know how do you... what causes anemia? How you handle it?

And with chronic kidney disease it is kind like I described, you have to limit the protein. So that decreases your iron levels. So did you get anemia because you limited protein and you have a low iron level? Or do you get anemia because your kidneys are not working as well, they're not releasing their erythropoietin and then therefore causing you not to make new red blood cells when the other ones are damaged. So it's kind of a catch 22 which causes it.

A lot of people on dialysis can get it or even late stage kidney disease, when their anemia gets to a certain point maybe they have a 12 hemoglobin or an 11 hemoglobin or eight or nine. Their doctor may give them erythropoietin or EPO. It's different drugs that they can give you. Epogen or some other stuff, but you get that and then it helps your blood level to get higher, you iron levels to get higher, decrease your anemia. And then once you get to that level, they may then not give you another dose EPO, then you are thinking I need that to maintain, and you lose your... you kind of go down it becomes a cycle where you get the EPO, you increase your iron levels and then you go down from that and then you get it back again. So it's just part of the way that the medicine is practiced. But it's neither good nor bad, you should feel pretty good when you have your iron levels up and if you're feeling fatigued and tired you need to check into whether or not you have some sort of anemia.

Other vitamin deficiencies can cause anemia, like I said. You could have blood loss from dialysis or from other surgeries. Maybe you had an access put in or something like that. That can cause bone loss. You may have bone marrow suppression, may cause you not to have as much release. Iron is not released into your body. If you... When your red blood cells are damaged say or die after 90 to 120 days. Usually what happens is in your body you have a process where that iron is reclaimed and reused your body is very good about recycling. Reduce, reuse and recycle that's what your body does. And so it reuses that but sometimes it may be affected and those body processes don't happen as efficiently and that maybe because you have such high levels of waste products in your blood or your illness is causing other things maybe medications are causing this to happen. Either way it's potentially going to be a reason why. And it's important to understand why because if there something you can do, if you can take an iron medication to help increase your iron levels, if you can take something to increase your B12 or B6. You really can help your body to kind of comeback from an anemia or help it. Even if your doctors give you EPO, you may need to take iron, you're helping your body to process that iron better.

Some of the symptoms I've been talking about having anemia. Some of the symptoms of anemia are very common is fatigue and shortness of breath. Just weakness and being tired. You may have pale skin, I know a lot of us have pale skin now regardless because we wear sunscreen or don't go out in the sun. You may be

affected with your ability to think clearly, you may have some rapid heartbeat, headache, weakness, ringing in your ears. It can cause cold hands and feet. It certainly can cause depression it's one of those things where you're so slow down and...

Today I was listening to some good information on... I listen to other podcasts as well and someone was talking about losing your health is not losing everything you don't have nothing if you lose your health. As your health declines you certainly have other options and I think that's something to feel encouraged by, because I feel like anemia really makes you just... It's almost frustrating as to how hard it can be to kind of get past the fatigue. So it's important to know... okay tell my doctor I have fatigue and then I'm tired all the time and they can check these things. If they're not checking them already. And they may... it may not be the problem but it may lead to something else.

And you might have trouble doing your daily activities or just in general listlessness or something like that. You'll just find out that it you can be a lot of ways but one of the most ways is fatigue. It might be... make you weak it might make you have aches and pains. But everything kind of make you have aches and pains. So you may not recognize that. But if you feel this, depression and fatigue... those are pretty common.

Anemia can also cause restless legs, it can cause brittle nails, and it can cause changes in menstrual cycles. It can cause you to have trouble achieving or maintaining an erection. It just can do all kinds of things to your body that if you had it corrected you probably would have some improvement in those areas.
You just in general are going to feel kind of crummy when you have anemia.

So this week, we talked about what is anemia? What are the different types of anemia? What are some signs and symptoms? And those signs and symptoms even though they are pretty common when you have chronic kidney disease you may feel tired, you may feel fatigue. Make sure that your doctor's checking you for anemia and if you have it, make sure you understand what you need to do and what medications you can take and how that can help you.

So that's what I want to talk about for this week. Thanks very much and next week we're going to talk about medications and treatments for kidney disease and anemia. There are some things that are commonly done, I talked for a minute but I'm going to talk more in depth about them next week. So thank you very much for listening. I really appreciate your time and I hope to hear from you, if you have any comments or questions email me at podcast at renaldiethq.com. And I'll be glad to answer any questions you have thank you.