



Vascular Interview - Prof. Vitale

Welcome to Vascular Experts, medical talks on vascular diseases. Today we are joined by Dr. Cristiana Vitale, who's an assistant professor of internal medicine at the Department of Human Science and Promotion of Quality of Life for the Open University of San Raffaele. She lives in between London and Rome and has a PhD in cardiovascular medicine. So welcome Cristiana, pleasure to have you.

Thank you so much, thank you for inviting me.

So Cristiana, you are quite famous in the field, in the management of CVD, but what is CVD actually?

Yes, it's a good question.

So CVD is a, I would say, very high prevalent disease, it's chronic, it's progressive, and these two terms should be kept in mind, but unfortunately it's underestimated. It's a disease that affects the venous system, in particular at the level of the lower limbs. You can maybe be interested in understanding what can cause chronic venous disease.

Chronic venous disease is a multifactorial disease, this means that it can be caused by a genetic predisposition that we cannot, of course, modify, and the modifiable cardiovascular risk factors, and we should put our attention on these risk factors such as obesity, the type of work that people do, the diet, the lack of exercise. These are the main risk factors, and I would say both for cardiovascular disease and chronic venous disease.

Okay, great, and maybe an additional question, because CVD now, there's also the talk in the field if it's chronic venous disease or chronic vascular disease, what's your opinion on that?

This is a very good point.

I would like to stress that chronic vascular disease has no sense to separate the venous system and the arterial system, because we should think of the patient and the cardiovascular risk factor, what we always mention as cardiovascular risk factor, affect at the same time the two systems. So, we divided the two systems because it's logic, it's logistical organization. Our healthcare system, unfortunately, is still organized and centered on disease.

Instead, we learn, in particular with the aging of the population, that the higher the age, the higher are the comorbidities of our patient, so it's really difficult now and tough to separate

the different diseases because they interact, and when we need to treat patients, we need to look at the old picture and try to find a holistic approach to our patients.

Great, and we know how close the patient is to your heart, and then when it comes to hopefully helping the patient, what are actually the treatment options when it comes to CVD, and how do you treat a patient with CVD?

Perfect. So, there are, I would say, just to keep simple, two main types of approaches. So, the first one is the non-conservative approach, so the aim is to treat an hemodynamic and anatomical problem, usually the venous reflux that is related to venous hypertension. We have so many different types of approaches. These can be related and choose according different, I would say, different type of situation.

For example, it depends by the anatomy of the veins, so we can choose, for example, the surgery that now is less performed because there are new methods that are less invasive and patients prefer, of course, to go out immediately from the hospital. And these are the ablation that can be thermal ablation or non-thermal ablation, but not all patients can do, for example, this kind of treatment or sclerotherapy because it depends, for example, by the size of the veins, how the veins are tortuous or not. So, we have few parameters that we need to consider.

Another problem can be what the doctor that has in charge the patient is keen to perform. Some doctors prefer to perform some procedure instead of other procedures, so this can even be a sort of element that can impact the type of treatment. I mentioned the non-conservative treatment that I was mentioning.

And I would say another thing can be even the availability of the national health system. Some of these treatments are, for example, covered by insurance compared to others. So, these factors can interfere with the decision, but I would say the most important role is the patient because they know what they want.

So, some patients are really keen to receive non-conservative treatment while others refuse this. So, one pillar of the treatment is the non-conservative treatment, but I would say we should never forget the conservative treatment. So, what is the conservative treatment? We have three pillars.

So, first of all, lifestyle. And this is really important if we now think about the vascular system. We want to, first of all, help our patient to modify their lifestyle because this can have a beneficial effect on both the venous system and the arterial system, so on the vascular system.

What they should do? First of all, keep in mind their diet, so eat properly, lots of vitamins, a lot of berries. These are really helpful for the venous system. They should maintain their weight, and this means that physical activity is very, very important.

We are in an era where obesity is a big problem, and there is the epidemic of obesity, unfortunately, that is related to several clinical consequences and, of course, with a higher risk of mortality. And obesity is really important for the venous system because, as you can imagine, if you have weight on your abdominal veins, this cause compression, but at the

same time change all the risk factors, causing metabolic syndrome, accelerating atherosclerosis, so we should definitely target obesity, in particular in young people. This is another big problem, I would say.

So, lifestyle, first topic. After lifestyle, I would say the second pillar is compression. The only problem is patient doesn't like compression, so we have a very low level of compliance, 60-70% of our patients, unfortunately, are not so keen to use elastocompression.

Third pillar, last but not least, I would say one of the most important is venoactive drugs, so the medical treatment, we can say, of chronic venous disease. Luckily, we have many components that we can use, and also in this case we can choose the different components in relation to the symptoms of our patients and to the clinical characteristics of our patients.

So, thank you, Dr. Vitale, super insightful.

Thank you also for breaking it down into three pillars, it makes it very easy to digest and really understand the principles. But if we maybe take a step back to the first pillar, which is lifestyle, you mentioned a very important word as well, which is diet, a very important aspect of the lifestyle. There's growing interest now in food supplements, for diet specifically, but actually, what is a food supplement? Could you maybe give us an explanation of what that means?

Yeah, this is not an easy question, I would say, because there is a bit of confusion.

So, trying to keep simple, food supplement is a concentrated source of nutrients that can have a positive effect on nutrition or our function. So, in this case, for example, we have many food supplements that we can use to improve the symptoms of our patient with the chronic venous disease. So, these are helping our diet so we can choose not only food, because also food, for example, I mentioned earlier, we have berries that are concentrated of vitamins and they can help even the venous stone, but there are food supplements that are not just normal components of our diet, but they are made in pills or in powder or in liquids that we can intake to improve the function of the venous system.

So, it's between, I would say, diet and treatment, because it's just the form of the treatment in pills or powder that we can intake as a food supplement.

Wow, okay, very interesting. And so, it really helps us then supplement the diet. So, it's something on top of a healthy diet, of course. But do you have examples of food supplements in the field of CVD?

In the field of CVD, we have many, many of these. I'll try to keep simple.

We have groups. For example, flavonoids that come from oranges, all the citrus elements. We know these products since maybe more than 100 years.

These have been used in the traditional medicine. So, lots of patients are very keen to take this kind of components because they are natural and they can, of course, support the venous system. Among the flavonoids, I think we can mention diosmin.

That probably is one of the most popular that often is joined with experidine. That is another component that has a deeper, some beneficial effect, but is also a source of

diosmin. So, giving them associated can help the system to have a higher effect, in particular, at the level, I would say, of the venous tone.

Diosmin and esperidine are also a very good effect as anti-inflammatory and inflammation is really important in causing chronic venous disease. And they have an effect also in the macrocirculation because chronic venous disease is something that affects the macro system, but also the micro system, the little capillary, to say in simple words. We have also saponins and among these, we have acin or we have that comes from horse chestnut or we have ruscus.

Ruscus is another component that have lots of studies as a diosmin-experidine. I would say ruscus and diosmin-experidine are the ones that have the most literature, so more studies that can support their action. Ruscus, just to say something fun, has been called the butcher broom because were used in the past just to clean the shops of the butcher from the meat residues and this can be because the leaves are very strong.

And it has a very good effect because it has also an action on inflammation, an action on venous stone. And, you know, if you understand that different molecules have a similar effect, this gives us also an idea that we can combine them and use them maybe in a lower dosage, but to obtain with less eventually side effects. Also, food supplements have very few side effects.

They have a very good profile. So, we are quite keen to prescribe to our patient in particular if they, for example, intake lots of other medication because the interaction between food supplements is lower compared to other medication. Another component that I would like to mention is bromelain.

So, bromelain comes from pineapple. It was discovered by Columbus, so this tells you how old is the knowledge about the beneficial effect of bromelain. But, unfortunately, it came in the market even if it was using the folk medicine and traditional medicine.

It came in the market a bit later because it needs a particular process for extraction and to become a food component. And also because at the beginning bromelain is this enzyme that has a proteolytic action and is really helpful to destroy the fibrin that can cause ulcers. And when we have an alteration of the microcirculation, we have the position of red cells of fibrin that can change the colors at the level of the distal legs of our patient.

I don't know if you can remember some of your friends that have, for example, little veins at the distal part of the legs. And these are very annoying for patients. So, this is really good for this effect.

And another important effect is the anti-inflammation. And we should keep this in mind because it's a different type of anti-inflammatory effect compared to the other one that I mentioned earlier. Because, for example, lots of our patients that have chronic venous disease can have also some problems in the articulation.

And this, of course, can compromise the function of the venous system because, of course, can have an effect in reducing the efficiency of the calf muscle pump. That is really

important to compress the veins and move the blood towards the heart. This is the right direction of the blood.

So, sometimes they have these articular problems. Or even if a runner goes to run, can have some issue and some little pain. And bromelain is really, really effective also in pain.

And roughly 6% of our patients intake analgesic drugs that we know are not good. Because they increase the blood pressure. Because they can cause even gastrointestinal problems.

So, I think that, for example, if we think of these three, I would say, components that I mentioned, diosmine, esperidine, and rose goose, and bromelain. If we think to put all together, we can have additive effect and synergistic effect. Covering all the different pathophysiological mechanisms that are at the basis of chronic venous disease. And we can improve, of course, quality of life of our patients.

Great. So, you mentioned quality of life, patients.

You mentioned comorbidities, of course. But you did touch upon it. But do you see any advantages, disadvantages with people with comorbidities using those food supplements? Do you see any risk with, for example, drug-drug interaction or anything of that sort? Or we don't really need to take this into consideration when it comes to food supplements?

We always need to take into consideration the needs of our patients.

They are the first, at the top of our priorities. And we need to understand the type of patient that we have in front of us. Some patients are really keen to use food supplement.

And a peculiarity, I would say, in the chronic venous disease is that, for example, diosminesperidine is recognized as a medication in some countries, but as food supplement in others. And maybe later we can discuss why this type of difference. So, even if we know that this component that they are using is actually a drug, but for the patient, if they recognize as a food supplement, sometimes they are more keen to take food supplement because they think that they are safer and healthier.

And this is true, but maybe we can discuss why it's not always true. So, I think that if they have comorbidities, if they're intaking lots of pills, the idea that they're intaking something that supplements their function and helps them, because, you know, symptoms are very annoying for patients and symptoms are related to the reduction of quality of life. So, if they know that actually we are trying to improve their symptoms that translate, of course, in positive effect on quality of life, they are more keen to take maybe a food supplement compared to something that we name a drug or a medication.

Okay, that's great. And maybe can you paint us a picture of the patient that would have benefits from food supplements, both in terms of what the patient looks like, but also maybe disease severity?

Yes, absolutely. So, just a quick recap, because chronic venous disease is a very broad term. And in chronic venous disease, we have patients that have, I would say, no sign, but maybe they have symptoms and we go to the opposite side of the severity of the disease that are patients with ulcers. And you can understand how different can be these patients. So, if I

have to think of the ideal patient that can receive a food supplement, I would say at the early stages of the disease.

So, young, for example, a young person, they often complain about symptoms that we can connect to the venous system. And also because, you know, young patients, of course, start medication can be psychologically a limitation for them. So, they are more keen to say, okay, the food supplement is fantastic, so I can reduce my symptoms.

So, I would say young patients with the early stage of the disease can definitely have benefits from food supplement. Of course, we cannot say that any type of food supplement or medication can interfere with the sign of the disease. But one sign of the disease can be also edema that instead can have the beneficial effect from a food supplement.

In particular, bromelain, for example, has a really good effect in reducing the swelling. Swelling is a huge problem for patients. Swelling often happens at the end of the day, in particular for those patients that work in a warm environment.

For example, those that have to stay, works in the kitchen. So, they can really benefit from a product that can reduce, give them the idea that they have not this very heavy leg. So, that can improve their symptoms.

So, other patients, I would say patients that have a predisposition, we know that there is a genetic component of chronic venous disease. So, if we put together, for example, predisposition that started to have symptoms, that works, for example, 8 hours or more sitting or standing. So, if we think, for example, a nurse or doctors, we are definitely a category at risk for a venous problem.

We can help them with food supplement. Of course, if we have more severe stages of the disease, as of course, we need to keep in mind the health of our patients. And what is certain, I would say, I need to decide for a product that has more research at the back that can support better the benefits for my patients.

But this doesn't mean that food supplements don't have a scientific support. But maybe for more severe stages, we need to do some research to confirm that they can help also more severe stage of the disease.

OK, that's very interesting.

Maybe something that sometimes is difficult for doctors nowadays is to also understand, because there's more and more options when it comes to food supplements. But what are the differences between the food supplements that you see? And then how would you categorize them? Should they look at the composition or what really makes a difference between the food supplements?

Perfect. So, I would say, first of all, you need to understand symptoms of your patient, the stage of the disease.

So, you know the picture. And this is the starting point. According to the symptoms, you can choose among different components that you can use alone as a singular component.

But I would say it's better to have a mixture and a combination of different components because they can have a synergistic effect. So, we have no one food supplement for all the symptoms. As I mentioned earlier, for example, swelling or edema, bromelain is really good.

But I would add bromelain with, for example, diosmine, espidine and ruscus, for example, and ore because they can have an additional effect on the venous stone. So, if we act in different pathophysiological points of the cascade of events that cause the disease, of course, we can have a better improvement of symptoms. I would say because, you know, if we name the components, the components are not all the same.

Because I can say ruscus, I can say diosmine, but it's really, really important to understand where they come from. Because even if patients think that food supplements are safe, this is true, but not 100% true because there are lots of notifications from the agency that regulate and they have to keep safe these components. For example, recognizing some product, some pesticides, some radiation, some contamination.

So, what can help our patient to have a safe product? I would say, first of all, the manufacturer. So, of course, if you buy online a product, I would say just avoid. Because even if from online is a product, even from maybe a main manufacturer, you don't have all the guarantee that, for example, the storage have been kept safe.

And the storage is really important because some package can have, for example, be exposed to different temperature. And we know that some of these plant supplements can be negatively impacted by these big changes of temperature. So, avoid online products if they do not come from a trustful, I would say, pharmacy or a trustful website.

The second point is the manufacturer. So, it's clear that if a big company, for example, that produces medication, produces also a food supplement, of course, this is a guarantee for us. The other point that I would say is a main point, I always suggest my patient to look at the label.

Because, you know, lots of supplements have just this supplement has this and that and that. And you even cannot realize that in a small pill you can have 10 elements. Because, of course, maybe you have just a drop of each component and the dosage is really important.

Because, of course, if we use the effective dosage of a component, of course, it is not helpful. So, we are taking something that is not effective. So, the label helps us both to understand the dosage, if it's correct, and to understand the type of components, but also the recipient.

Because some of this plant product, of course, if you use the wrong recipient, maybe they do not act with another type of recipient. The other thing, another important point I would say is how the pill is made. It's clear that if we have an industry that produces a pill, they can improve also the delivery of the components of the food supplement in the body.

Because, for example, there are particular preparation like to micronize, for example, this diosmine, we learn that we have a better absorption. Or, for example, if we have different layers and, you know, if we have a different component, it's good to have layers that maybe

release one of the components very quickly. Because maybe, for example, diosmine is very effective immediately.

So, if we take, the release is quite immediate. Instead, bromelain needs maybe a different type of release. And because it has to avoid the gastrointestinal digestion and act directly in the gut.

So, if we prepare our pills in the right way, we know that we reach the efficacy of the pills. And this maybe can be, of course, supported by a manufacturer that produces in the proper way a food supplement compared to something that maybe you buy online. So, to summarize, because maybe you know otherwise so many information, manufacturer, label and storage. So, the safety that when you buy a product that has been conserved in a proper way.

Great. So, thank you.

That really clarifies it and what to really look out for when choosing the right food supplement to improve the life of patients. Because ultimately, that's what we're trying to do. What you do also as a doctor, we can feel your passion for the patient also.

So, thank you for that. Thank you also for joining us on this talk, which is Vascular Experts Medical Talks on Vascular Disease. So, thank you.

And I don't know if you're going back to Rome or London, but...

Back to London. And thank you so much for having me today. It has been a real pleasure.

The pleasure is shared. And thank you again. Thank you, Dr. Vitale.