Podcast Dr. Karetova - Part 1

Welcome to Vascular stories, the medical podcast on vascular disease.

In this podcast, we'll speak of Acute Complications of Chronic Venous Disease

Chronic venous disease (CVD) is a prevalent and multifaceted medical condition affecting the venous system, particularly the veins of the lower extremities. It encompasses a spectrum of venous disorders, ranging from mild cosmetic concerns to severe and debilitating conditions. This podcast aims to provide an overview of acute complications of CVD.

Today I want to introduce you to Dr. Debora Karetová, Outpatient Department Head at Internal Medicine, for Cardiology and Angiology, at Charles University, General University Hospital in Prague. President of the Czech Angiology Society.

Goodmorning Dr. Karetová

DR.
Goodmorning

Dr. Karetova, what is the difference between chronic venous disease and chronic venous insufficiency?

Chronic venous disease, so
called CVD, describes a broad spectrum of conditions which is characterized by venous hypertension. It is occurring predominantly on the lower extremities and is specifically defined as
any morphological or functional abnormality of the venous system of long duration, manifested by symp toms and signs indicating the need for investigation and care.

The term chronic venous insufficiency, CVI, includes the most severe manifestations such edema, skin changes, or leg ulcers.

It's undeniable that CVD represents one of the most frequent vascular diseases in the world, entailing a n important burden for the individual but also for the healthcare systems.

How is the venous system impacted by CVD?

From a histological perspective, veins are composed of three layers, tunica intima, tunica media, and a dventitia, or outer layer, which is important because it's composed by connected tissue, which is an imp ortant development of elastic fibers, giving the vessel an important support and elasticity.

In the case of varicose vein, however, the normal structure of the vein is altered, with prominent change s inthe thickness and composition of the venous wall.

And in addition, veins present venous veils. They are the
cuspid prolongations from the venous tissue essential to maintain the blood flow in the proper direction, impeding venous reflux.

Furthermore, different muscle pumps act coordinately with the venous wells to assure the unidirectional blood flow.

Which are the main signs of CVD?

Varicose veins are the most common manifestation. Other venous signs include teleangiiectasis and ret icular veins and the common sign is also peripheral edema of venous origin, and then different skin cha nges like pigmentation or even ulceration in most advanced stages.

Which are the risk factors for CVD?

In the pathophysiology, the interplay between genetics and environmental factors are responsible for increasing the blood venous pressure, leading to substantial changes in the whole structure and functio ning of the venous system.

And these risk factors can be grouped into modifiable and non-modifiable categories. Non-modifiable are age, especially because incidence of CVD increases with age due to venous wolf and w hale degeneration. We also have some genetic predisposition. Having the first degree relative with varic ose
veins, it raises the risk. Female sex is important because women are morelikely to develop CVD, especi ally after multiple pregnancies due to hormonal effects on veins, and in some cases also congenital ven ous malformation like syndrome Klippel-Trénaunay.

But it's important to stress that we have also modifiable or lifestyle_associated risk factors, that is, prolonged standing or sitting. So some occupations which are requiring long periods of immobility can i mpede venous return.

And important is also the lack of muscle contractions, worsening stages. Second modifiable is obesity, because it increases intra-abdominal pressure and reduces venous tone.

Third one is pregnancy, its physiological state, but due to increased blood volume and hormonal chang es, And uterine pressure on pelvic veins also has some influence, negative one, to evolvement of varice s.

And lack of physical activity, because sedentary lifestyle reduces effectiveness of the calf muscle pump, while regular walking and leg movement promotes venous return.

So many of these risk factors are interrelated and they tend to evolve some sort or some form of chroni c venous disease.

How significant is this medical condition? what are the different forms of the disease?

It's really a common disorder, and the estimated prevalence of CVD of all forms ranges to 60%, althoug h this data may be highly heterogeneous depending on the population studied.
For example, according to Edinburgh vein study, one in three patients developed this advanced form, th is chronic venous insufficiency from the initial varicose vein diagnosis, after about 13 years.
To accurately identify individual cases and distinguish the severity of their condition, we use the CEAP classification.

Which are the most common diagnosis methods?

Regarding diagnosis methods used, the main one is colorduplex ultrasound. Nowadays, the most used investigational or clinical examination has replaced the rest of diagnostic techniques because of being n on-invasive, reproducible, easy to use and is essential to conduct a proper management of the patient.
The use of other procedures such as stratismography might be useful, but they are not so important.
Also computed tomography, venography or magnetic resonance flibography are valuable techniques, although they are normally reserved only for a very complex type of cases.

And what would you recommend as initial management approach?

Initial therapy often involves such measures as compression, elevation, exercise, gait training, everythin g to optimize the venous pump and to promote the problem of gravitation and improve the return of the blood.
It is important to recommend to all patients with CVD such regimen strategies, consisting of increasing exercise and limiting prone standing, sitting, reducing weight if necessary, and also doing frequent elevation of the limbs during the day, which are essential in all phases of CVD.

And then we have also such important therapeutical therapies like compression, pharmacological treatment.

But compression stockings are for some patients not easy to use, but they should be recommended as the first conservative measure.

CVD can also be treated pharmacologically through various venoactive agents. These compounds aim to decrease vascular permeability and ameliorating the inflammatory response may increase vascular t one and operate on platelet aggregation maybe.

They range from saponins, flavonoids, micronized purified fractions of flavonoids, extracts from differen herbs, to drugs reserved for especially healing of venous ulcers.

Thank you so much Dr. Karetova we really appreciate your contribution

Thank you very much it was a pleasure for me as well

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This podcast has been produced with the support of Alfasigma

Date of preparation: July 2025