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THE SEMIOLOGICAL CHARACTERISTICS OF CHRONIC VENOUS DISEASE

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Summary
Chronic venous insufficiency is mostly idiopathic in nature and, in these cases, is called primary insufficiency. Another large part of cases of venous insufficiency is a consequence of a sequelae of DVT, in which case the venous insufficiency is called secondary. The striking clinical characteristics of venous insufficiency include: a feeling of tiredness or pain in the legs and edema that worsen in an upright position, more evident in the afternoon. Symptoms improve with elevation of the limb. Late changes in venous insufficiency include skin hyperpigmentation, lipodermatosclerosis and venous ulcers. The diagnosis is clinical and can be confirmed using color Doppler ultrasound. All patients with venous insufficiency should be treated by applying elastic stockings or compression bandages, in addition to elevating the limb three to four times a day, plantar flexion exercises and skin care. Venous ulcers should be treated using the same general measures recommended for chronic venous insufficiency, in addition to local wound care, such as dressing changes and debridement of devitalized tissues. The use of systemic antibiotic therapy is only foreseen in the presence of an active infection. **Key words:**venous insufficiency, ocher dermatitis, thromboembolism.

Abstract
Chronic venous insufficiency is mostly idiopathic in nature and, in these cases, is called primary insufficiency. Another large part of cases of venous insufficiency is a consequence of a sequelae of DVT, in which case the venous insufficiency is called secondary. The striking clinical characteristics of venous insufficiency include: a feeling of tiredness or pain in the legs and edema that worsens in the upright position, more evident in the afternoon. Symptoms improve with elevation of the limb. Late changes in venous insufficiency include skin hyperpigmentation, lipodermatosclerosis and venous ulcers. The diagnosis is clinical and can be confirmed using color Doppler ultrasound. All patients with venous insufficiency should be treated by applying elastic stockings or compression bandages, in addition to elevating the limb three to four times a day, plantar flexion exercises and skin care. Venous ulcers should be treated using the same general measures recommended for chronic venous insufficiency, in addition to local wound care, such as dressing changes and debridement of devitalized tissues. The use of systemic antibiotic therapy is only foreseen in the presence of an active infection.

Keywordsvenous: insufficiency, ocher dermatitis, thromboembolism.

Introduction

Chronic venous insufficiency (CVI) corresponds to a vascular disorder with high morbidity that impacts millions of individuals globally. It is a complex and multifactorial disease involving the circulatory system and affecting the return of venous blood to the heart. The disease mainly affects the veins of the lower limbs and encompasses a complex venous pathology. The limitations associated with chronic venous insufficiency are responsible for a reduction in quality of life and a decrease in efficiency in the workplace. In most cases, the underlying cause is ineffective venous valves. This chronic condition can manifest itself in a variety of symptoms beyond the cosmetic condition, including pain and swelling. When left untreated, CVI tends to progress, often resulting in post-phlebitic syndrome and the formation of venous ulcers. Early diagnosis and appropriate management of

chronic venous insufficiency are essential to mitigate symptoms, prevent complications and improve patients' quality of life. Treatment generally involves conservative approaches, such as wearing compression stockings, elevating the legs and exercising regularly, as well as specific medical interventions for more advanced cases. Therefore, this article seeks to explore the key aspects of chronic venous insufficiency, including its causes, symptoms, diagnosis and available treatment options. By better understanding this complex condition, we can improve the quality of life of affected patients and promote more effective interventions for the management of this disease.

The objective of this article is to gather information, through analysis of recent studies, about the semiological aspects of patients with chronic venous insufficiency, especially aspects related to the epidemiology of the disease and current perspectives of diagnosis, treatment and monitoring.

Methodology

This is a qualitative narrative review study, suitable for discussing the semiological aspects of chronic venous disease and the importance of pharmacological therapeutic measures, aiming for a better patient prognosis. It consists of a comprehensive analysis of the literature, which the method was based on as it is a bibliographical analysis regarding venous insufficiency and its respective semiological aspects. Articles indexed in the databases of PubMed, Lilacs, SciELO,

Latindex and other literature relevant to the topic, during the month of January 2023, with the last 15 years as a reference period.

The following indexing terms or descriptors were used: coagulation disorder, venous insufficiency, ocher dermatitis, isolated or in combination. The criterion chosen for inclusion of publications was to have the expressions used in the searches in the title or keywords, or to have it explicit in the abstract that the text is related to the semiological aspects of chronic venous disease. The excluded articles did not meet the established inclusion criteria and/or were duplicated, that is, publications restored in more than one of the databases. Dissertations and theses were also excluded.

After the target information was retrieved, the titles and abstracts were initially read.

Subsequently, the complete reading of the 20 texts was carried out. As axes of analysis, we initially sought to classify the studies according to sampling particularities, delimiting those whose samples are from the semiological aspects of chronic venous disease and those whose samples are from the classifications of each clinical stage. Clinical impairments. From there, we continued with the analysis of the theoretical foundation of the studies, as well as the observation of the general characteristics of the articles, such as year of publication and language, followed by

Of your goals. Finally, the methodology used, results obtained and discussion were assessed.

Results and discussion

The search for articles that made up this study identified 155 references regarding the pathophysiological imbalances of chronic venous insufficiency and its repercussions in the aforementioned databases, of which 33 publications were included in the review. Among the selected studies, 28 articles have a theoretical approach, 1 has a cross-sectional design, two articles deal with a case study. The prevalence of publications in English was observed, representing 84% of the total, when compared to Spanish (9.6%) and Portuguese (6.4%).

Chronic venous disease (CVD) is the most common disorder of the peripheral vascular system and almost exclusively involves the lower limbs.

Venous insufficiency can be categorized as primary and secondary:

• Primary venous insufficiency: this is an acquired idiopathic entity, multifaceted in nature. torial and represents the main determinant of venous insufficiency.

• Secondary venous insufficiency: these are episodes of venous insufficiency secondary to an event specific, such as neoplasia, arteriovenous fistula, venous thrombosis, among others. The most common factor of secondary venous insufficiency is the post-thrombotic obstructive state (sequela of DVT).

Clinical condition

People with symptomatic chronic venous insufficiency generally complain of pain,

heaviness or fatigue in the legs. These are exacerbated in periods of prolonged standing and this occurs because this posture favors venous stasis in the lower limbs.

Late clinical manifestations address the**hyperpigmentation**and the**eczema**. The reason is the extravasation of macromolecules such as fibrin and hemosiderin, associated with the chronic inflammatory response. The progression of the inflammatory process leads to lipodermatosclerosis (skin and subcutaneous fibrosis) and the formation of ulcers

Signs of chronic venous insufficiency
Dilation of the superficial venous system (telangiectasias and varicose veins)
Evening edema
Cutaneous hyperchromia
Eczema
Fibrosis and skin atrophy (lipodermatosclerosis)
Presence of ulcerations

CLINICAL CLASSIFICATION (CEAP)

The clinical signs of chronic venous disease can be classified from 0 to 6 depending on their appearance.

C1	C2	C3	C4	C5	C6
Telangiectasias	Varicose veins	Edema (Without changes skin)	Skin changes secondary to insufficient venous science	Skin changes with healed venous ulcer	Skin changes with venous ulcer open

Chronic venous insufficiency (CVI) can be conceptualized as the set of clinical manifestations arising from the abnormality (reflux, obstruction or both) of the peripheral venous system (superficial, deep or both), generally affecting the lower limbs.

The main signs and symptoms of CVI are considered: tingling; pain; burning; muscle cramps; swelling; feeling of heaviness or throbbing; skin itching; restless legs; leg tiredness and fatigue.

Among the risk factors for developing the disease, we can mention people of advanced age, female sex (particularly in CEAP C1 and 2, in CEAP C4 to 6 there seems to be no distinction), the number of pregnancies, obesity and family history. Data regarding the contribution of smoking, oral contraceptives and hormone replacement therapy to the origin of venous disease remain controversial.

The patient's history can help distinguish between primary, secondary or congenital varicose veins. tas.

This information is essential to rule out secondary causes: existence of thrombophlebitis or previous DVT; diagnosis of thrombophilia; previous trauma; Premenopausal women with varicose veins should be investigated for symptoms of pelvic congestion syndrome (pelvic pain, heaviness, dyspareunia).

Complementary diagnosis in venous disease

Doppler Ultrasound (USD)

Doppler ultrasonography is the most useful method used for the initial diagnosis in the pathological approach to chronic venous diseases. Its advantages include being a non-invasive exam, it can be repeated as many times as necessary, reproducible, allowing both the anatomical evaluation of the venous vascular system and its physiology through hemodynamic evaluation. Making it possible to detect the pathophysiology of the venous disorder (reflux, obstruction, or both) and locate the specific venous segments with changes – deep system, superficial system, perforators.

Photoplethysmography

The principle of photoplethysmography lies in the light reflex triggered by subdermal vessels and its variation according to the volume of blood in the vessel. Initially designed to evaluate arterial disease, the method was adapted to the venous territory where it takes into account local refill time. Phlebography

The indication for the use of phlebography in patients with varicose veins decreased significantly with the advent of USD. In evaluating superficial, perforating, and deep veins, DUS is at least as reliable as phlebography. In specific situations, such as in the diagnosis of pelvic vein obstructions or incompetence of gonadal and iliac veins and in the evaluation of vascular malformations, when alternative imaging techniques are not conclusive, phlebography represents a good alternative. In the presence of vascular malformation, complex post-thrombotic syndrome or cases of recurrent varicose veins, phlebography can help obtain information such as the origin of reflux such as perforator involvement and pelvic reflux.

Venous CT angiography (TCV) and venous magnetic resonance angiography (RMV)

Despite major advances in techniques for obtaining and reconstructing images of the venous system using both exams, their use in venous disease remains restricted. Its main indications still lie in cases where USD is not conclusive, especially in cases of stenosis or obstruction of the iliacocaval venous segment and insufficiency of gonadal veins in association with pelvic varicose veins. Patients with compromised renal function represent a limitation to the mandatory use of ionic contrast in CTV and gadolinium in MRI. MRI requires more time to perform, while CTV exposes the patient to potentially harmful radiation.

Treatment

Dressings and compression are available in venous disease. There is a huge variety of dressings and techniques used for the local treatment of venous ulcers. Better quality studies on large populations broadly demonstrate that all are good alternatives, and that the systematization and constant evaluation of dressings are better than random and unsupervised dressings. Another very constant point was the importance of combining dressings with some type of compression. Regardless of the technique or material used, we can currently consider compression as the key part of conservative treatment, acting directly on the pathophysiology mechanisms that lead to the appearance of ulcers and worsening of the disease. In this topic, there are a series of compression modalities that include gradual compression stockings, elastic and inelastic bandages and intermittent compression.

The explanation for the action on the pathophysiology of venous disease seems similar between the means, inducing less dilation of the superficial and deep veins, improving the action of the pan-turrilha and an anti-inflammatory action that together determine less edema and a decrease in ambulatory venous pressure. However, these findings are based on lower quality work. The use of elastocompression as a long-term isolated therapy in patients without ulcers, who are only symptomatic, results in treatment discontinuation in approximately 30% within two years51 and 50% within three years of treatment. Some specific groups may have difficulty putting on or taking off socks, such as the elderly, those with some neurological sequelae, pregnant women and obese people, as well as certain groups may more frequently have problems adapting to wearing socks, such as obese people and people with disabilities. of the skin as in the case of eczema. In general, in groups without ulcers that manage to maintain treatment,

both an improvement in symptoms and an improvement in quality of life questionnaires could be observed

In cases where skin ulceration occurred (CEAP C5-6), the use of elastic or inelastic compression, with levels of at least 40mmHg promoted healing more quickly.

efficient.

CLINICAL MEASURES TO CONTROL VENOUS INSUFFICIENCY:

Clinical measures aim to alleviate symptoms and control the progression of the disease. All patients with chronic venous disease must undergo four essential clinical measures:

1. Compression therapy (elastic stockings or compression bandage).
2. Elevation of the limb three or more times a day.
3. Exercises that involve calf contraction.
4. Skin care.
5.

TREATMENT OF VENOUS ULCERS

Venous ulcers should be managed by elevating the limb and compressive therapy with bandages, in addition to local care such as chemical or mechanical debridement and application of dressings.

The application of special dressings such as the unna boot is often used to treat venous ulcers. The boot consists of a zinc oxide dressing covered by a compressive bandage.

It is worth remembering that systemic antibiotic therapy should not be used routinely and is reserved for cases of active infection.

FULL ANTICOAGULATION

Full anticoagulation is the first-choice treatment for patients with DVT, and the objective of anticoagulant therapy is to reduce the risk of secondary complications, such as pulmonary thromboembolism and chronic venous insufficiency.

Anticoagulation should be started as soon as possible and maintained for at least three months. For cases where risk factors persist after this period, we can extend anticoagulation to six months, one year, or even for life, if the risk factors are permanent.

Among the main anticoagulants available on the market, all drugs have similar efficacy.

The main anticoagulants are listed below:

• Unfractionated heparin (UFH): this medication can be reversed with the use of protamine. Your Use is usually restricted to hospitalized patients. The effects of heparin are monitored using the partially activated thromboplastin time (APTT).

• Low molecular weight heparin (LMWH) – Enoxaparin: administration of LMWH has an effect It has a more predictable dose-response compared to UFH, which is why it is a safe medication for outpatient use. This is the medication of choice for treating DVT in pregnant women.

• Warfarin sodium: warfarin is a vitamin K antagonist and acts to reduce coagulation factors. tion K-dependent (II, VII, IX, X).

The anticoagulation promoted by warfarin is measured using prothrombin time (PT) and its therapeutic range is defined by the INR (international normalized ratio), which must be between 2 and 3.

It is important to note that in the first few days after starting warfarin there may be a pro-coagulant phenomenon. Therefore, in the first few days, warfarin must be administered together with another anticoagulant, such as UFH or LMWH, to avoid thrombotic phenomena.

• Rivaroxaban (Xarelto): rivaroxaban is an oral medication that works by inhibiting factor Xa. O The test of choice to evaluate its therapeutic action is the dosage of anti-factor Xa.

Conclusion

From the analysis of the information collected, it can be explained that chronic venous insufficiency,

Most of them have an idiopathic nature and, in these cases, it is called primary insufficiency. Another large part of cases of venous insufficiency is a consequence of a sequelae of DVT, in which case the venous insufficiency is called secondary. The striking clinical characteristics of venous insufficiency include: a feeling of tiredness or pain in the legs and edema that worsen in an upright position, more evident in the afternoon. Symptoms improve with elevation of the limb. Late changes in venous insufficiency include skin hyperpigmentation, lipodermatosclerosis and venous ulcers. The diagnosis is clinical and can be confirmed using color Doppler ultrasound. All patients with venous insufficiency should be treated by applying elastic stockings or compression bandages, in addition to elevating the limb three to four times a day, plantar flexion exercises and skin care. Venous ulcers should be treated using the same general measures recommended for chronic venous insufficiency, in addition to local wound care, such as dressing changes and debridement of devitalized tissues. The use of systemic antibiotic therapy is only foreseen in the presence of an active infection.

References

1. Eklöf B, Perrin M, Delis K,T, Rutherford RB, Gloviczky P. Updated terminology of chronic venous disorders: the VEINTERM transatlantic interdisciplinary consensus document. J Vasc Surg 2009;49: 498-501
two. Rabe E, Pannier-Fisher F, Bromen K. Bonner Venenstudie der Deutschen Gesellschaft für Phlebologie e epidemiologische Untersuchung zur Frage der Häufigkeit und ausprägung von chronischen Venenkrankheiten in der städtischen und ländlichen wohnbevölkerung. Phlebologie 2003;32:1e1400)
3. Rabe E. Vein Bonn Study. Phlebologie 2006:179e86
4. Criqui MH, Jamosmos M, Fronek A, Denenberg JO, Langer RD, Bergan J, et al. Chronic venous disease in an ethnically diverse population: the San Diego Population Study. Am J Epidemiol 2003;158:448e56
5. Fowkes FG, Lee AJ, Evans CJ, Allan PL, Bradbury AW, Ruckley CV. Lifestyle risk factors for lower limb venous reflux in the general population: Edinburgh Vein Study. Int J epidemiol 2001;30:846-52.
6. Beebe-Dimmer JL, Pfeifer JR, Engle JS, Schottenfeld D. The epidemiology of chronic venous insufficiency efficiency and varicose veins. Ann Epidemiol 2005;15:175e84
7. Rabe E, Guex JJ, uskas A, Scuderi A, Fernandez Quesada F. Epidemiology of chronic venous disorders in geographically diverse populations: results from the Vein Consult Program. Int Angiol 2012;31:105e15
8. Evans CJ, Fowkes FG, Ruckley V, Lee AJ. Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein study. J Epidemiol Community Health 1999;53:149e53
9. Graham ID, Harrison MB, Nelson EA, Lorimer, Fisher A. Prevalence of lower-limb ulceration: a systematic review of prevalence studies. Adv Skin Wound Care 2003;16: 305e16
10. De Castro-Silva M. Chronic venous insufficiency of the lower limbs and its socioeconomic significance. Int Angiol 1991;10:152
11. Cabral ALS. Chronic venous insufficiency of the lower limbs: prevalence, symptoms and predictive markers. Thesis presented to the Federal University of São Paulo, Escola Paulista de Medicina to obtain the title of Doctor of Medicine. 2000. 140p.
12. Maffei FHA, Magaldi C, Pinho SZ. Varicose veins and chronic venous insufficiency in Brazil: prevalence lence among 1755 inhabitants of a country town. Int J Epidemiol 1986;15:210
13. Porter JM, Moneta GL. Reporting standards in venous diseases: an update. International Consensus Committee on Chronic Venous Disease. Journal of Vascular Surgery 1995;21:635-45
14.Gloviczki P, Comerota AJ, Dalsing MC, Eklof BG, Gillespie DL, Gloviczki ML, Lohr JM, McLafferty RB, Meissner MH, Murad MH, Padberg FT, Pappas PJ, Passman MA, Raffetto JD, Vasquez MA, Wakefield TW; Society for Vascular Surgery; American Venous Forum. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. J Vasc Surg. 2011. 53(5 Suppl):2S-48S. doi: 10.1016/j. jvs.2011.01.079.