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MAY-THURNER SYNDROME: REPORT OF TWO CASES

Katryne Ferreira Rodrigues Correa
Medicine Student at Centro Universitário Presidente Tancredo de Almeida Neves – UNIPTAN

Abstract: May-Thurner syndrome (SMT) or Iliac Vein Compression Syndrome (IVCS), as its name suggests, consists of compression of the left common iliac vein by the right common iliac artery. It is a pathologically variable anatomical condition, ranging from asymptomatic conditions to more important complications, such as deep vein thrombosis (DVT) and pulmonary embolism resulting from edema and varicosities that can have repercussions in chronic venous stasis ulcers. The diagnostic approach to this condition depends on the presence of DVT and the diagnostic method of choice is vascular ultrasound, with magnetic resonance angiography, contrast-enhanced CT venography and intravascular US being other options for diagnosis and follow-up.
Keywords: May-Thurner. Iliac Vein Compression Syndrome. Vascular surgery. Veno-occlusive disease. Venous Stasis.

INTRODUCTION

May-Thurner Syndrome (SMT) or also known as Iliac Vein Compression Syndrome (SCVI) is characterized by compression, with a pulsatile characteristic, of the left common iliac vein between the right common iliac artery and the fourth lumbar vertebra (L4)[1,2].

The pathophysiological mechanism of compression syndrome occurs in two ways: mechanical and direct compression of the iliac vein and deposits of elastin, collagen and fibrosis on L4. There is also a compression mechanism through repeated repercussions of various compressions, which occur dynamically [3,4].

Epidemiologically, TMS affects in a greater proportion young age patients and females, between the second and fourth decade of life. Clinically, patients initially present with intermittent claudication after physical exercise and paresthesia in the lower limbs. Upon development of the chronic phase of the pathology, the patient presents signs and symptoms suggestive of chronic venous insufficiency[5].

Compression of the iliac vein may lead to varicose veins in the pelvic region, in the left lower limb, in addition to deep venous thrombosis, and patients may have symptoms such as swelling of the left lower limb, chronic pelvic pain, pain during and after sexual intercourse and intense symptoms of varicose veins in the left leg.

Therapy is aimed at symptomatic patients, being arranged in two methods, conventional open surgery and endovascular, minimally invasive surgery [7].

In this sense, the objective of this report of two cases involving the syndrome in question is to demonstrate the importance of clinical suspicion in these cases for the correct diagnostic and therapeutic approach.

Furthermore, this article aims to report the case of two patients diagnosed with May-thurner Syndrome, specifically outlining the clinical criteria that allowed, in these cases, the diagnosis of the syndrome in question, as well as the choice and technique therapy used in each case.

Finally, TMS is a vascular compression with significant clinical repercussions on the iliac veins, such as chronic venous insufficiency and DVT. Therefore, the work is justified by the need to report the case of two patients diagnosed with TMS, in order to understand its pathophysiology, clinic and therapeutic techniques.

Also, the patient who is affected by the Syndrome in question may result in acute venous thrombosis of the left lower limb and often affects from the compression site to the distal veins of the leg.

However, as mentioned, the above work was based on the report of two patients affected by the disease, so that the symptoms and consequences of May-Thurner Syndrome

can be better delineated.

METHODOLOGY

This is a descriptive case report of two patients, one female and one male aged 36 and 38 years respectively, both were diagnosed with May-Thurner Syndrome or Iliac Vein Compression Syndrome. They were treated in the city of São João del Rei - MG, at the premises of the CIAM (Integrated Medical Care Center) of the Santa Casa da Misericórdia de São João del Rei-MG. The study will be carried out over a period of 01 (one) year in the city of São João del Rei-MG and will follow the norms for Research in Human Beings, Resolution 466/12 of the National Health Council. The work complies with ethics through the Informed Consent Form of the patient involved in the research.

When patients agreed to participate in the study, they signed the Consent Form, posted in Annex I of this study.

For the elaboration of the article in question, an interview was carried out with the patients, supervised by the physician responsible for the case, with the aim of obtaining information about their previous clinical condition, as well as to provide the necessary clarifications regarding the evaluation and confidentiality of the data. data. In addition, the patients' medical records were analyzed, which served as the basis for this report.

As a result, personal identification data, complaints, history of the current illness, symptomatological interrogation, personal physiological and pathological history, family history, lifestyle habits, medications in use, laboratory and imaging tests, physical examination, clinical diagnosis, therapeutic techniques used and in use and objectives of the treatment.

All information considered relevant, throughout the research, was solely and exclusively intended for the elaboration of results present in public actions to raise awareness of the population, reports, scientific articles and in course completion work.

PATIENT 1 CASE REPORT

Female patient, 36 years old, white, married, maid, born in Ritapolis.

She was admitted to the angiology/ vascular surgery service about 5 months ago with a previous diagnosis of presumed deep vein thrombosis (DVT) in the left lower limb. She reported that at the time of onset of symptoms, she had swelling and heavy pain in her left lower limb, with no other complaints and no history of local trauma. She then sought medical care, however, there was no diagnostic confirmation of DVT and the use of heparin was instituted during hospitalization with subsequent prescription of Xarelto 15mg / day for home use after hospital discharge.

During the interview, the patient informed that her 1st pregnancy was when she was 17 years old. Having gone through two pregnancies, two deliveries and no abortions (G2P2A0), with a normal delivery in the first pregnancy and a cesarean section in the second. She claimed to have a previous ultrasound diagnosis of subserosal uterine fibroids.

She reported using Paroxetine 25 mg / day and Rivotril 2.5 mg / ml, at a dose of 5 drops at night, denying other comorbidities, allergies and use of other medications.

In her family history she reported that her mother has Systemic Arterial Hypertension and nothing else reported is worthy of note.

She claimed to have a sedentary lifestyle and denied smoking, drug and alcohol consumption.

Upon clinical examination, the patient was lucid, oriented in time and space, cooperative, hydrated, flushed, anicteric, afebrile, eupneic, atypical facies, normal gait, adequate nutritional status and without trophic

alterations of the skin.

Blood pressure: 120/70 mmHg, Heart rate: 70 bpm. Cardiovascular and respiratory system without alterations on clinical examination. Absence of adenopathy.

Osteo-articular-ligamentous apparatus without changes on clinical examination. Wide mobility of the lower and lower limbs. Spine without pathological deviations and with satisfactory mobility.

Abdomen without changes on clinical examination. Observation:

Lower limbs: Symmetrical, eutrophic musculature, absence of visible deformities, preserved range of motion. Moderate swelling of the left lower limb ++/++++ (cold and hard consistency). Negative Homans sign.

Doppler of the lower limbs was performed in the office, which did not show changes in the venous and arterial system. Next, aortoiliac magnetic resonance angiography, routine laboratory tests and thrombophilia research were requested, and Xarelto was maintained with dosage adjustment, changing to 20 mg / day in a single dose.

The results of the laboratory tests performed (CBC, Fasting Glycemia, Total Cholesterol, LDL, Triglycerides, ASLO, CRP and Latex, Rheumatic Function Tests, Free Protein S, RCPA Test (Activated Protein C Resistance - Leiden V Factor), Homocysteine and IgG and IgM anticardiolipin research, complete Coagulogram) were within normal limits.

In the pelvic angioresonance examination, the presence of focal compression on the left common iliac vein by the right common iliac artery was verified, in addition to thrombosis of the left external iliac vein throughout its course, extending to the ipsilateral great saphenous arch. Therefore, being compatible with the diagnosis of May-Thurner Syndrome.

Currently, the patient is asymptomatic, performing regular physical activity, having returned to work without limitations. She reports, sporadically, mild edema in the left lower limb and low-intensity pain after going uphill. In regular use of elastic graduated compression stockings and the use of Ecasil 81mg, without evidence of bleeding.

Patient awaiting evaluation by the vascular surgery service through the Unified Health System (SUS) network for correction of the compressive process, probably endovascular surgery, angioplasty with stent placement. (percutaneous transluminal angioplasty with placement of a self-expanding stent). Images of the exams performed:

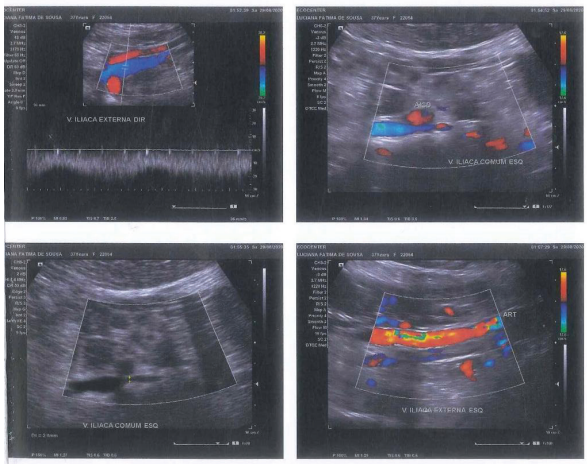

Figure 1

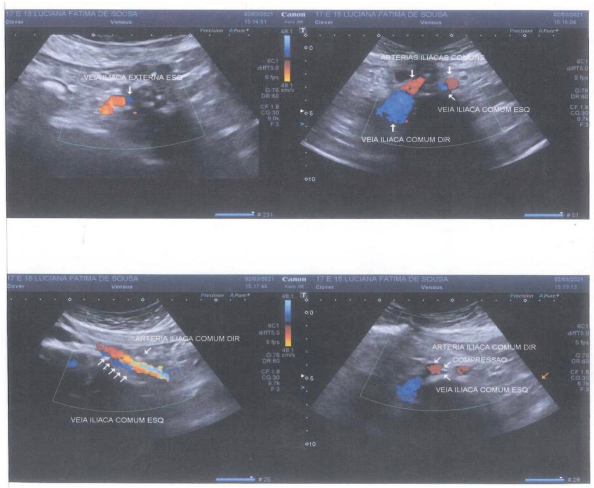

Figure 2

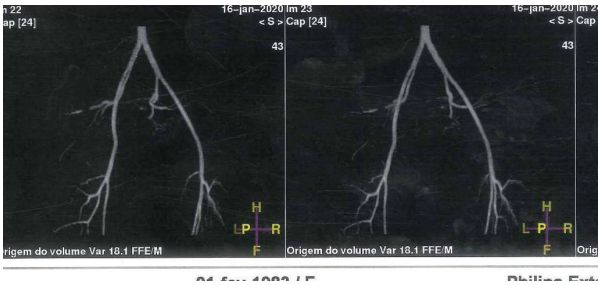

Figure 3

PATIENT 2 CASE REPORT

A 38-year-old male patient presented with a diagnosis of recent venous thrombosis and was hospitalized with a diagnosis of pulmonary embolism on 07/27/2020.

He complained of severe pain in his left leg. He had surgery scheduled for 08/05/2020, for the treatment of lower limb varicose veins in Juiz de Fora, which was suspended due to the COVID-19 pandemic and the occurrence of pulmonary thromboembolism. In the vascular Doppler examination of the left lower limb performed on 10/19/2020, he did not show signs of deep venous thrombosis. He referred diagnosis of hypertensive heart disease and cardiomyopathy in regular use of Lasix 40 mg, Losartan 50 mg, Carvedilol 3.125 mg and Marevan 5 mg. He reports that Marevan was suspended due to bleeding.

On examination, he presented with suffering facies, eupneic, acyanotic, anicteric, limping gait on the left, BP = 120x80 mmHg, HR =70bpm, FR=20 irpm.

Voluminous edema throughout the lower left limb and pain on mobilization of that limb.

Cardiac auscultation without alterations. Lungs with bilaterally preserved expandability without adventitious sounds.

Lower limbs showing voluminous edema throughout the left lower limb with intense pain on palpation. Symmetrical distal pulses of good amplitude. Absence of signs of lower limb ischemia, with bilaterally satisfactory peripheral capillary perfusion.

Xarelto 15 mg was started every 12 hours for 21 days, Omeprazole 20 mg in the morning, on an empty stomach, and laboratory tests and angioresonance of the abdomen and pelvis were requested.

Result of laboratory tests performed on 08/31/2020, within normal limits.

Angiography of the abdomen and pelvis performed on 09/02/2020 presented the following report: left common iliac veins course posterior to the right iliac artery, causing compression along its proximal portion. The iliac segments of this vessel have the usual caliber and present satisfactory opacification with the use of intravenous contrast agent. The above findings suggest May-Thurner Syndrome (Cockett Syndrome), without signs suggestive of sequelae of thrombosis in the segment studied on the left.

There was a marked reduction in edema in the left lower limb and remission of the pain.

Indicated specialized evaluation in a reference medical center due to the non-availability of surgical treatment in this location.

He started light physical activities with daily walks without difficulties with marked improvement of residual edema. He had sporadic bleeding in the stool and discontinued the use of Xarelto for 7 days. He returned to treatment with a negative fecal occult blood test after this period.

Currently with mild lower limb edema. In regular use of elastic graduated compression stockings and maintaining the use of Xarelto, now 10 mg, with no evidence of bleeding and maintaining a stable clinical picture.

Clinically stable patient, awaiting vascular surgery through the Unified Health System (SUS) network to correct the compressive process, probably endovascular surgery, angioplasty with stent placement. (percutaneous transluminal angioplasty with placement of a self-expanding stent).

DISCUSSION

At first, in 1851, May-Thurner syndrome was described by Rodolph Virchow as compression of the left iliac vein, which would consist of a common anatomical variation [9], moreover, it is a syndrome that is associated with ileofemoral thrombosis, as well as signs and symptoms of chronic venous hypertension, including varicose veins, edema, trophic changes and ulceration of the left lower limb. Compression of the left common iliac vein is somewhat a common anatomical variant, the common iliac artery crosses, anteriorly, the left common iliac vein, and posteriorly to it is located the promontory of the fifth lumbar vertebra [7].

May and Thurner, in 1956, carried out a study on cadavers and based on this, outlined the pathophysiology of the disease, demonstrating the hypertrophic variations found in the venous intima, associated with chronic mechanical stress, induced by pulsations of the right common iliac artery on the left common iliac vein. against the lumbar vertebra [7].

Subsequently, in 1965, Cockett and Thomas portrayed the iliac vein compression syndrome linked to symptoms of edema, pain and deep venous thrombosis. to the surgical approach, especially after the emergence of endovascular treatment [7,9].

Also, the association of compression and the pulsating vibration of the artery on the vein results in causes of this syndrome, then there is the vein pulling between the artery and the lumbar spine. Furthermore, the walls of the vein may suffer damage to the endothelium, leading to the formation of thrombi. [10].

In 1958, Palma and Esperan carried out the first attempt at surgical treatment for the type of injury caused by the syndrome, which was based on the elaboration of a crossed femoro-femoral bypass, shortly after Cormier retracted about the reinsertion of the origin of the right iliac artery, transposing it to the inferior portion of the iliac vein, removing the compression.

For the diagnosis of the aforementioned syndrome to be made, there must be a high degree of clinical suspicion, especially considering the absence of an acute DVT. The finding of unilateral edema associated with symptoms and signs of chronic venous insufficiency may be linked to the syndrome, especially in female individuals aged between 20 and 40 years, in which case a thorough investigation is required. [9,10].

For the diagnosis, it is essential to study the iliac segment, which can demonstrate the presence of compression, with a turbulent flow pattern and high velocities at the injury site. However, there are some problems that can make it difficult to diagnose the disease, such as: intestinal gas and obesity.

Other means for diagnosing May-Thurner Syndrome are computed tomography and magnetic resonance imaging, which provide a higher degree of accuracy. Still, nowadays, with vascular ultrasonography there is a greater possibility of understanding the pathophysiology of the disease and consequently a better therapeutic orientation, in the case of endovascular treatment.

Previously, the treatment of the Syndrome was based on anti-coagulation, which prevents the propagation of the thrombus, however it does not eradicate the existing thrombi or the extrinsic compression. Therefore, the patient would be subject to complications related to post-thrombotic syndrome and recurrence of thrombosis.

Nowadays, one of the treatments used is endovascular, its main objective is the reversal of the obstructive component and maintenance of valve function, this fact occurs through chemical dissolution of thrombi, restoring normal flow, avoiding the complications mentioned. However, it is a

treatment that also allows correction of the mechanical obstruction caused by extrinsic compression, reducing the risk of new occurrences. [9,10].

CONCLUSION

Finally, it can be said that May-Thurner Syndrome is capable of determining deep vein thrombosis, as well as varying levels of chronic venous insufficiency, with early diagnosis being essential to curb complications. However, the type of treatment must be individual for each patient, always aiming for the best therapeutic option for the clinical picture.

In addition, endovascular treatment is now a huge advance for this disease, as it allows the hemodynamic restoration of the lesion, providing results in the short and medium term.

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