

# Uncommon Clinical Presentation of a Common Pathology – May-Thurner Syndrome

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## ABSTRACT:

**Background:** May-Thurner Syndrome (MTS) is a syndrome where the right common iliac artery in its course, as it crosses in front of the left iliac vein causes compression the vein against the fifth lumbar vertebrae. This resultant obstruction may cause leg swelling, discoloration, deep venous thrombosis, or more serious complications, such as pulmonary embolism. Iliac vein compression can be assessed with computed tomography (CT).

**Materials and Methods:** In this case report, we discuss a case post interventional recurrence of unilateral varicose veins of who came to DR. D. Y. Patil Medical Hospital, Navi Mumbai. The scan was performed

**Conclusion:** This report describes the radiological features of seen with this diagnosis along with a brief review of literature.

**Key Word:** Deep vein thrombosis; Iliac vein compression; May-Thurner Syndrome; CT venogram

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## I. Introduction

May-Thurner syndrome (MTS) is a venous outflow obstruction syndrome characterized by compression of the left common iliac vein by an overlying right common iliac artery. MTS primarily affects young to middle-aged women, although many patients remain entirely asymptomatic.

Treatment usually involves endovascular management, including thrombolysis and/or thrombectomy with or without inferior vena cava (IVC) filter placement, followed by angioplasty and stenting of the left common iliac vein.

## II. Material And Methods

A middle aged female patient presented to DR. D. Y. Patil Medical Hospital, Navi Mumbai with complaints of swelling of the left foot. On clinical examination an ulcer at the medial aspect of the left ankle was noted. The patient also provided history of intervention with endo-venous laser ablation therapy of the left GSV and left SSV a year ago.

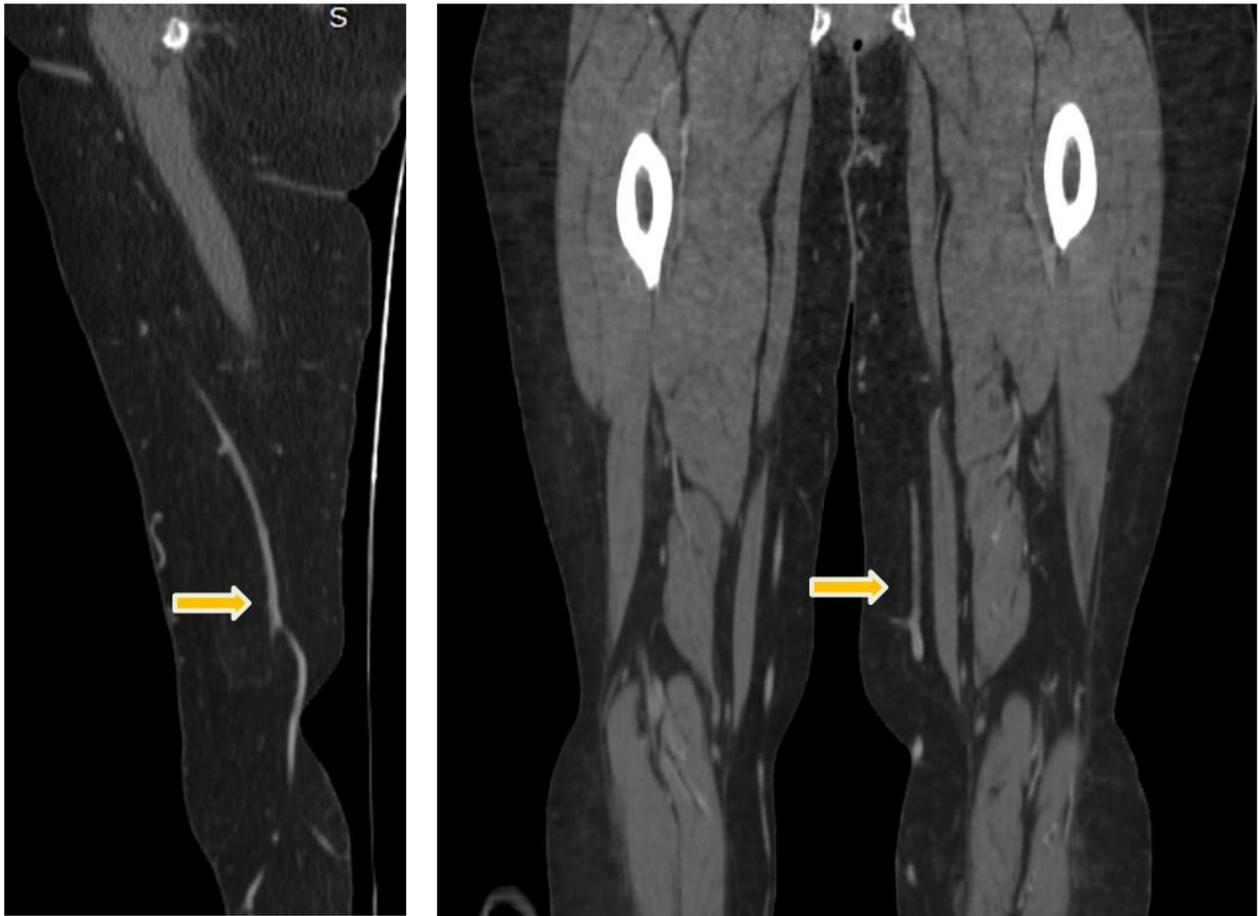
After written informed consent was obtained, detailed clinical history was collected. It included socio-demographic characteristics such as age, gender, nationality, occupation, number of pregnancies, antenatal / immediate postnatal complications, medication consumption or any insults and parental / familial lifestyle habits like smoking and alcohol. Occupational history that required prolonged standing was ruled out.

It was supplemented by relevant clinical and biochemistry laboratory investigations (to rule out other causes).

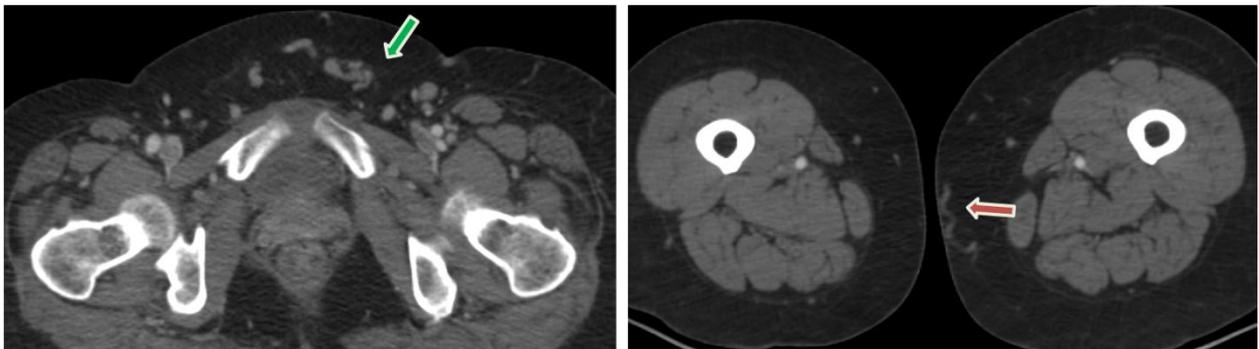
Computed tomography with contrast venography of the subject was performed on GE optima 128 CT machine at our institute.

Adequate information about the study in form of protocol, risks and complications was provided to the concerned subjects in their understandable language. The protocol was quantified with dedicated software. It consisted of 15 ml test bolus and 30 ml main bolus (300 mgI/ml) injected at 5 ml/s, followed by a 40 ml saline chaser at the same flow rate. Aorto-popliteal bolus transit time was used to calculate the overall acquisition time and delay.

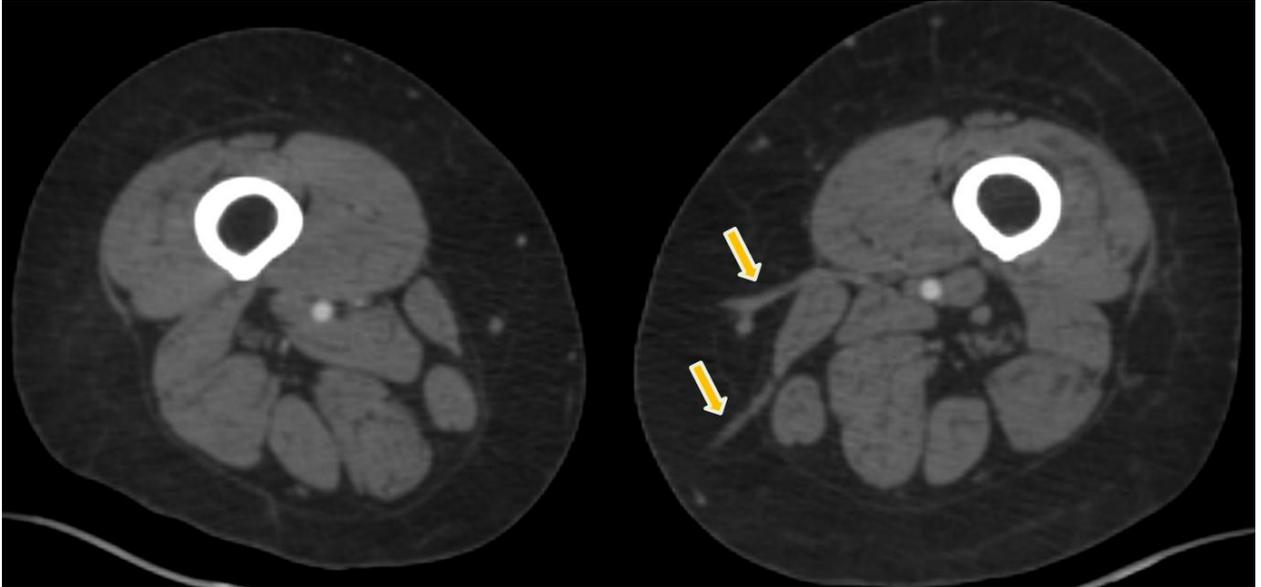
**III. Result**



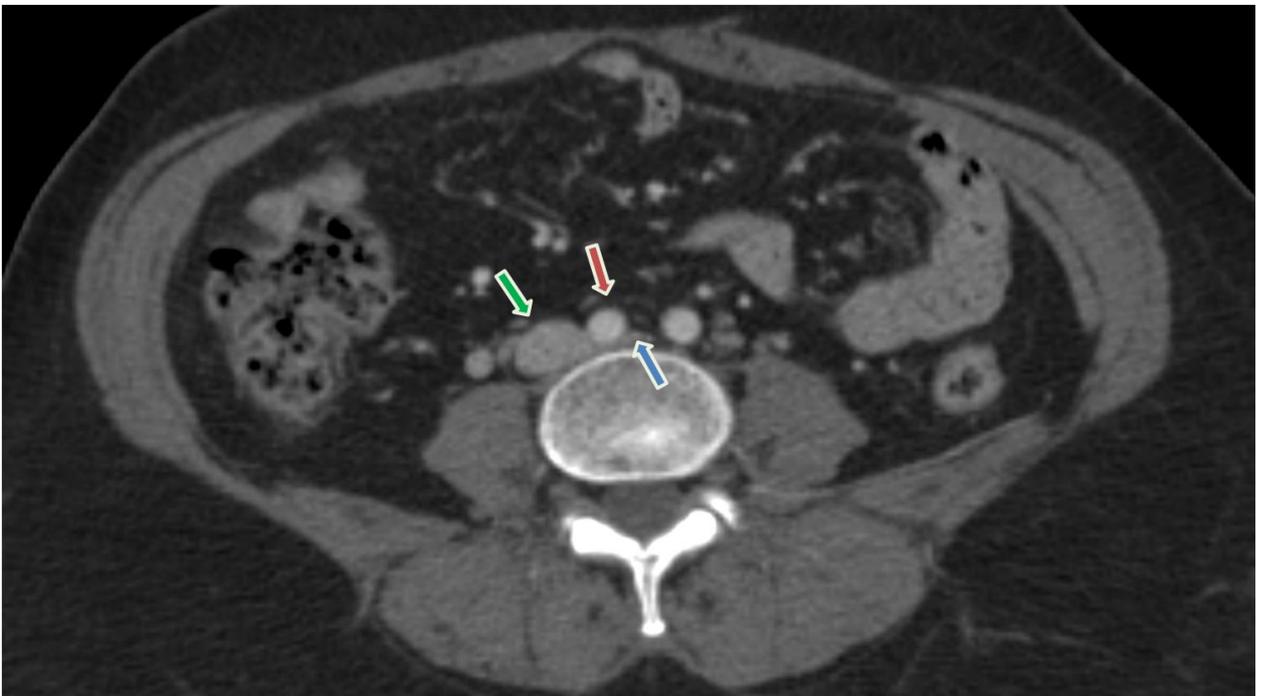
The great saphenous vein appears prominent in calibre, predominantly at the knee.



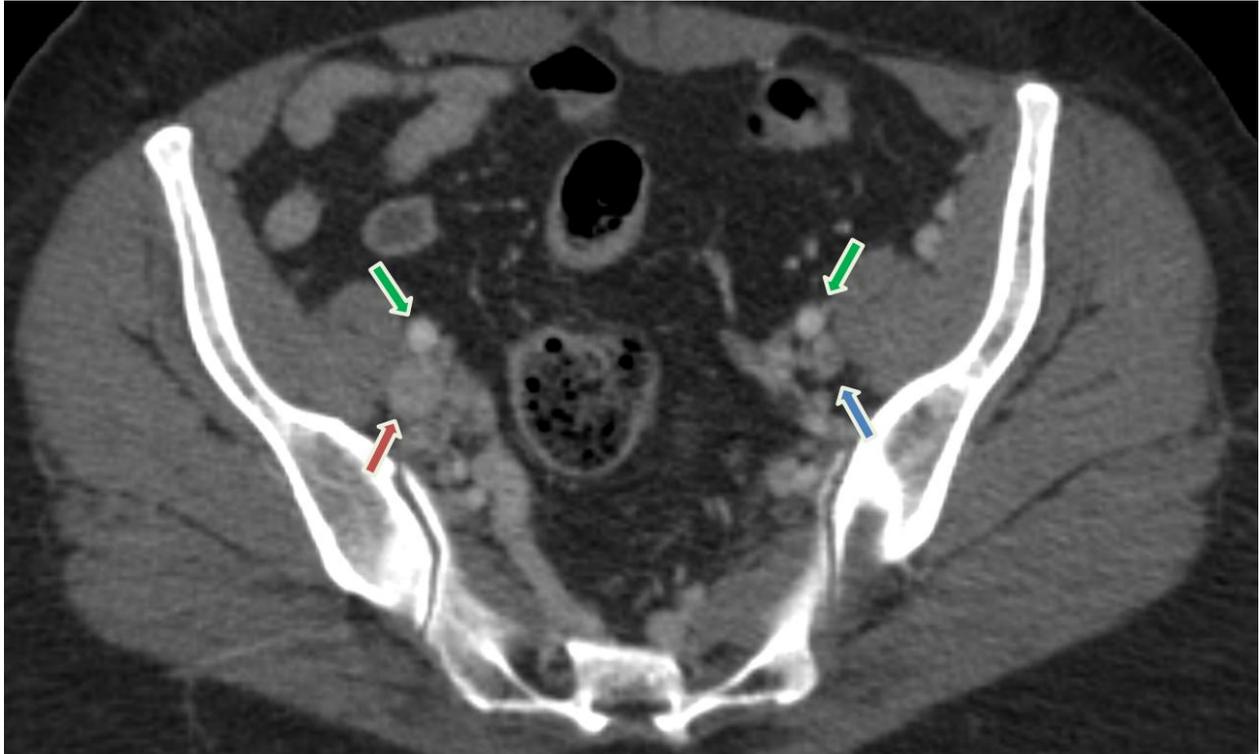
Multiple dilated and tortuous varicosities are noted along the left great saphenous vein predominantly at the left inguinal region (green arrow) and popliteal fossa (red arrow).



Multiple dilated veins are seen along the left great saphenous vein perforating the deep fascia of muscles, to connect the superficial venous systems to the deep vein.



The left common iliac vein (blue arrow) appears reduced in calibre measuring approximately 1.6 mm compared to the right showing compression at the L4 vertebral body level by the right common iliac artery (red arrow). The right common iliac vein mildly dilated in calibre (green arrow).



The left common iliac vein (blue arrow) appears reduced in calibre in comparison to the right common iliac vein (red arrow) in the axial CT at the level of SI joint. Bilateral common iliac arteries (green arrow) appear normal in calibre.

#### **IV. Discussion**

Deep venous thrombosis (DVT) were found to be five times more likely to occur in the left leg as compared to the right. May and Thurner explained the phenomenon by discovering an anatomical variation of left common iliac vein. They found that the left common iliac vein was crossed and compressed against the fifth lumbar vertebrae by overlying right common iliac artery, which resulted in a vascular thickening at the point where it is crossed. It was postulated that a repeated pulsation of the overlying iliac artery is the reason for the thickening, which leads to a venous obstruction.

CT Venography has been proven to be a useful tool with excellent sensitivity and specificity of 95% to detect this anatomical variation. It also offers the additional benefit of detecting other causes of external compression, such as localized hematoma, tumors, or lymph nodes.

The compression morphology in the CT venography is classified into three types including:  
Type I : The point of compression of the left common iliac vein at the site of crossing under the origin of the right common iliac artery.

Type II: Atrophy of the segment of the left common iliac vein from the site of the compression to the division site where the vein divides into internal and external iliac veins.

Type III: obliteration of the entire left common iliac vein.

In our case the patient although treated for the unilateral varicosities in the left lower limb returned with recurrence and was diagnosed with the reduction in the calibre of the left common iliac vein as compared to the right and its compression at the L4 vertebral body level by the right common iliac artery. The patient was given the diagnosis of Type I compression morphology left common iliac vein compression or May-Thurner syndrome.

#### **V. Conclusion**

MTS is a rare cause of venous thromboembolism caused by compression of the left common iliac vein by the right common iliac artery against the nearby vertebral bodies. We reported this case of MTS that started with features of chronic venous stasis ulcer. The early recognition of MTS aids in proper management that can

prevent fatal complications. This case report enlightens the need for a proper evaluation to recognize rare causes of common presentations.

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