Nowadays, with the evolution of less invasive endovenous techniques and the arrival of a greater variety of improved stents specifically designed for the treatment of deep venous obstruction, there is an increased necessity for a more accurate understanding of what is perceived to be a May Thurner syndrome (MTS) [1]. Often the MTS is described as an iliac vein compression syndrome [2, 3]. (► Fig. 1a, b)

However with the human body in a supine position, intermittent venous compression at multiple levels is quite common without necessarily being a pathological condition. Studies targeting the left common iliac vein, investigating asymptomatic subjects, have found significant compression and diameter reduction in up to 80% of their cohort [4, 5]. Such publications have led to discussion whether modern diagnostic tools performed on patients predominantly in a supine position may lead to over treatment on the basis of false positives [6]. It is perceived that modern available diagnostic tools may fall short as it is suggested that patients should also be assessed in an upright position [7]. Duplex ultrasound (DUS) is one of the few diagnostic imaging tools capable of comparing supine with upright images. (► Fig. 2).

This potentially may lead to MTS becoming a myth as justifiably the question is asked to define a pathological MTS [8].

Virchow was the first to report a higher prevalence of deep venous thrombosis in the lower left extremity as a result of compress-
sion of the left Common Iliac vein (LCIV) [9]. May and Thurner cor-
roborated earlier cadaver studies finding lesions which they de-
scribed as ‘spurs’ in the LCIV in 22% of their 430 cadavers [10].
Previous cadaver reports had shown LCIV fibrotic material to exist
in 24–30% [11, 12]. However, the exact cause of these spurs re-
mains uncertain and may not purely be attributed to the ef-
effects of arterial compression. [13]

Cockett and Thomas were pioneers in the sense that during
surgery they distinguished between an acute phase with an occlu-
sion on the basis of deep venous thrombosis without evident fi-
brosis and a chronic phase nowadays described as post thrombo-
sic syndrome. In their cohort, chronic patients would have fibrous
scarification [14].

However, with time, the emphasis on the presence of fibrous
material has become lost in translation as physicians focus on the
patient symptoms. Acute MTS is often associated with acute deep
venous thrombosis (DVT). [15] Chronic MTS presents itself on the
basis of chronic venous hypertension characterized by signs of
chronic venous insufficiency, varicose veins, skin changes such as
hyperpigmentation, lipodermatosclerosis, ulceration as well as
chronic leg pain. MTS increasingly is taken into consideration
when patients suffer from Pelvic Congestion syndrome.

Diagnostic tools are DUS, Computed Tomography (CT), Mag-
netic Resonance Imaging (MRI), Intravascular Ultrasound (IVUS)
and contrast venography. Importantly CT, MRI and contrast veno-
graphy are used to see whether compression of the LCIV is com-
bined with the presence of numerous tortuous venous collaterals
as well as anatomical asymmetry. Although operator dependent,
DUS in the hands of a skilled ultrasonographer, can acquire similar
information as well as important complementary hemodynamic
information.[16, 17]

To summarize, MTS is not purely based on the severity of the
LCIV compression, but is in conjunction with anatomical changes
such as fibrous spurs, thickened vein walls in the presence of ve-
 nous collaterals.[18]

In conclusion, it is recommended that physicians should not
just focus on LCIV when attempting to evaluate MTS. Often a
more comprehensive approach is required where physicians
should not rely on one diagnostic tool.[19]
Conflict of Interest

The authors declare that they have no conflict of interest.

References


[12] Ehrich WE, Krumbhaar EB. A frequent obstructive anomaly of the mouth of the left common iliac vein. Am Heart J 1943; 26: 737–750


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