May-Thurner Syndrome: A Case Report
May-Thurner Sendromu: Olgu Sunumu

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Abstract
May-Thurner Syndrome (MTS) or iliac vein compression syndrome is caused by compression of the left common iliac vein by the right common iliac artery. This obstruction may cause leg swelling, varicosities, deep venous thrombosis, chronic venous stasis ulcers, or more serious complications, such as pulmonary embolism. Iliac vein compression can be assessed with computed tomography (CT) and iliac venography. The goals of treatment are to reduce symptoms and to reduce the risk of complications. Stent placement is an alternative method to a direct surgical approach. We present a case of MTS, treated with stent placement.

Key Words: Iliac vein compression, May-Thurner Syndrome

Özet
May-Thurner sendromu veya iliak ven kompresyon sendromu sol ana iliak venin sol ana iliak arter tarafından kompresyonu sonucu oluşur. Vendekii obstrüksiyon sonucu bacakta şişlik, varis, derin ven trombozu, kronik venöz staz ülserleri veya pulmoner embolizm gibi daha ciddi kompleksiyonlar gelişebilir. Iliak ven kompresyonu bilgisayarılı tomografi ve iliak venografi ile değerlendirilebilir. Tedavide amaç semptomların ve komplikasyon riskini azaltmak. Stent uygulaması cerrahi metodunun alternatif bir yöntemdir. Yazımızda stent uygulaması yapılan bir MTS olgusunu sunulmaktadır.

Anahtar Kelimeler: Iliak ven kompresyonu, May-Thurner sendromu

Introduction
May-Thurner syndrome, also known as iliac vein compression syndrome, Cockett syndrome, or iliocaval compression syndrome is caused when the left iliac vein is compressed by the right iliac artery, which increases the risk of deep vein thrombosis (DVT) in the left leg [1-3]. A history of persistent left lower extremity swelling with or without deep venous thrombosis in a woman between the 2nd and 4th decades of life, without an obvious cause, is highly suggestive of May-Thurner syndrome. The clinical suspicion can be confirmed with CT and iliac venography [4]. We present a case of MTS with persistent painless swelling of the left thigh.

Case Report
A 28-year-old female presented with left thigh swelling for approximately three years. Bilateral lower extremity venous Doppler ultrasonography (US) revealed normal findings. Abdominopelvic contrast-enhanced wide area detector CT angiography [5, 6] was performed to assess the patient. CT scan demonstrated normal arterial anatomy and compression of the left iliac vein by the right common iliac artery (Figure 1). Stenting of the iliac vein was applied as treatment (Figures 2-4).

Discussion
May-Thurner syndrome is caused by compression of the left common iliac vein by the right common iliac artery. It is not an infrequent source of venous abnormalities in the left lower extremity [7]. The overlying artery appears to induce a partial obstruction of the vein in two ways: by its anatomic orientation with subsequent physical entrapment of the left common iliac vein, and by extensive intimal hypertrophy of the vein resulting from the chronic pulsatile force of the right common iliac artery [7]. This condition has been estimated to occur in 2-5% of patients who undergo evaluation for lower extremity venous disorders [3].

Reported findings show that lower extremity deep venous thrombosis occurs three to eight times more frequently in the left side than on the right [2, 8]. Iliac vein compression should be diagnosed prior to the onset of iliofemoral venous thrombosis and venous insufficiency syndrome. An iliak venogram obtained via femoral artery is the diagnostic test of choice because it can demonstrate the compression...
itself and because the pressure gradient measurement can be performed to confirm the hemodynamic significance. Contrast material-enhanced CT scans at the level of the distal abdominal aorta can also demonstrate the extrinsic compression caused by the right common iliac artery.

May-Thurner syndrome is a progressive disease with long-term disabling complications [4]. This type of obstruction may cause leg swelling, varicosities, deep venous thrombosis, chronic venous stasis ulcers, or more serious complications, such as pulmonary embolism or phlegmasia cerulea dolens [3, 7]. Multiple surgical treatment options have been advocated. These include vein-patch angioplasty with excision of the intraluminal bands, division of the right common iliac artery and relocation behind the left common iliac vein or inferior vena cava, and contralateral saphenous vein graft bypass to the ipsilateral common femoral vein with creation of a temporary arteriovenous fistula (Palma crossover) [8, 9]. The reported long-term success, which is defined primarily as patency of the left common iliac vein or venous bypass, is 40%-88% [8]. In recent years, treatment with endovascular

Figure 1. Contrast-enhanced CT scan revealed absence of the left common iliac vein due to compression.

Figure 2. Contrast-enhanced CT scan revealed stent placement in the left common iliac vein compressed by the right common iliac artery.
techniques has been described [8, 10, 11]. Excellent short-
term results with stent placement have been reported in case 
reports and small series [8, 11, 12].

In conclusion, May-Thurner syndrome should be taken 
to consideration if there is persistent edema of the left leg, 
especially in young women. CT and iliac venography demon-
strates the iliac vein compression. The mechanical compres-
sion should be recognized prior to the onset of deep venous 
thrombosis and venous insufficiency. Endovascular treat-
ment with stent placement is an alternative to direct surgical 
repair that yields excellent short-term results.

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