



Successful Endovascular Left Iliac Vein Stent Insertion Treatment of Acute DVT-May Thurner Syndrome

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Abstract

May-Thurner Syndrome also known as "Iliac Vein Compression Syndrome" or Cockett's Syndrome. In this Syndrome the left common iliac vein is compressed by the right common iliac artery and it causes development of deep vein thrombosis. Anticoagulant therapy is one of the most chosen protocol for this Syndrome but is has alone is highly risky for the development of pulmonary embolism and early recurrence.

We report a case of May-Thurner Syndrome with the treatment of Catheter-guided thrombolysis and angioplasty with stent implantation, we think this is a safe and effective method for May-Thurner syndrome.

Keywords: Deep vein thrombosis; May-thurner syndrome; Catheter-directed thrombolysis; Iliofemoral post-thrombotic syndrome; Venous thromboembolism; Thrombectomy.

Introduction

May-Thurner syndrome also called ilio caval compression syndrome, Cockett syndrome or iliac vein compression syndrome is an uncommon disease entity in which the left common iliac vein is compressed by the right common iliac artery with subsequent development of deep vein thrombosis and chronic venous insufficiency.

This anatomical transformation has become a risk factor in deep vein thrombosis because the compression causes stasis of the iliac vein blood. The presenting complaints can be leg swelling, pain in the leg, varicosities, deep vein thrombosis, and venous ulceration and also lead to pulmonary embolism [1,2].

Case Report

We report a case of a 55-year old woman. A female patient presented to the emergency department with complaints of swelling, edema and pain which had started about 4 hours ago. In physical examination, she was normotensive, and +2 edemas were present. Peripheral pulses were open. No difficulty in breathing

or tachycardia. A diagnosis of deep vein thrombosis from iliac vein to popliteal vein was made. The patient was taken to the interventional catheterization unit. Puncture was made to popliteal vein and a sufficient recanalization was made from left common iliac vein to vena cava inferior using AngioJet™ Peripheral Thrombectomy System Boston Scientific.

Narrowness in left iliac vein and residue thrombosis were observed, and accordingly balloon dilatation was performed first and a stent was inserted into the iliac vein and a balloon dilatation was performed again in the stent. After the procedure, popliteal vein was completely opened, and a very slight amount of residual thrombus was seen in the left iliac vein. The procedure was finalized since the venous return flow was very good. The patient was discharged with coumadin treatment.

Discussion

Deep vein thrombosis (DVT) is commonly found in patients who have suffered from problems such as

spinal cord injuries, old age, immobilization, quadriplegia, obesity, oral contraceptive taking, and venous stasis (Figures 1-3) [3,4]. Although the prevalence of anatomic variation leading to left iliac artery exerting compression onto the left iliac vein is about 20%, clinical prevalence leading to Dvt is about 2-3% [5].



Figure 1: Thrombus in left femoral vein.

To choose the appropriate treatment between medical therapy and vascular invasive treatment becomes very important.



Figure 2: Thrombus in left iliac vein.

Generally, this syndrome has been treated with an aggressive intervention treatment, such as an angioplasty with additional stent insertion, because treatment with only anticoagulants is ineffective and has risk for re-thrombosis in early period [6]. Anticoagulant therapy alone is highly risky for the development of

pulmonary embolism and early recurrence, and insertion of a stent into the iliac vein with aggressive interventional treatment is the most popular and effective treatment method [7].

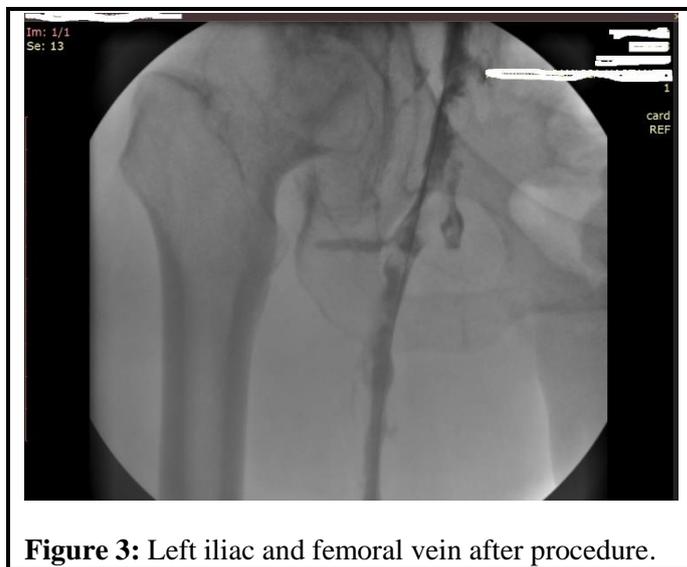


Figure 3: Left iliac and femoral vein after procedure.

Iliac vein stent patency results are quite promising; 1-3 and 5-year patency rates have been demonstrated to be 100%, 93.3% and 92% respectively (Figures 4 and 5) [8,9].



Figure 4: Ballon dilatation.

The prevalence of May-Thurner syndrome is higher in women [6]. We believe this low prevalence rate is due to missed diagnosis. The diagnosis of May-Thurner syndrome is based on the clinical presentation of left lower extremity swelling and pain in association with radiologic evidence of compression.

Diagnosis of May-Thurner syndrome may not always be straight forward. Doppler ultrasound will detect if a DVT is present in the iliac vessels but is unable to visualize iliac vein compression.

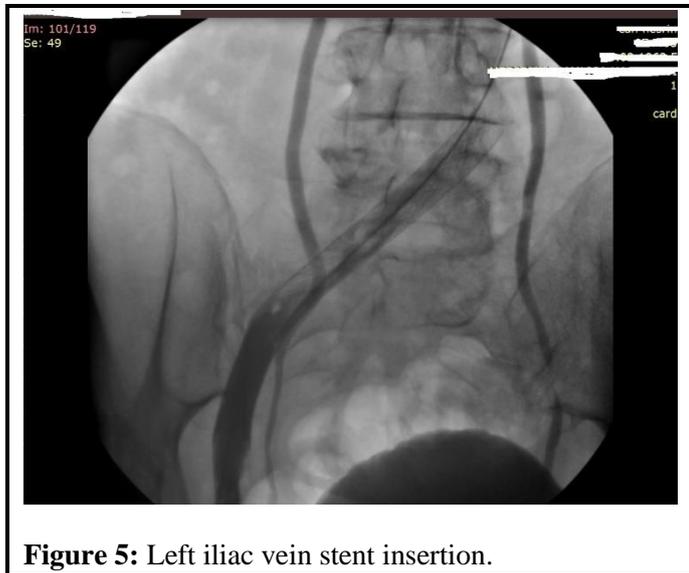


Figure 5: Left iliac vein stent insertion.

Other diagnostic modalities are computed tomography (CT), CT venography, magnetic resonance venography (MRV), intravenous ultrasound (IVUS) and conventional venography.

Conclusion

Management of May-Thurner syndrome has evolved over the past few decades favoring endovascular management as the primary treatment. With early recognition and aggressive invasive management, May-Thurner syndrome can be a well-managed disease. Catheter-guided thrombolysis and angioplasty with stent implantation is a safe and effective method for the treatment of May-Thurner syndrome.

Conflict of Interest

None declared.

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