



Excellent long-term results for large, braided self-expanding stents in iliofemoral venous disease

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AUTHORS OFFER TIPS FOR BEST LONG-TERM CLINICAL OUTCOMES FOR TREATMENT OF CHRONIC ILIOFEMORAL VENOUS OBSTRUCTION

CHICAGO, Illinois, January 2019 – A single-center experience using large, braided self-expanding stents for iliofemoral venous obstruction found excellent outcomes. Several useful techniques and pearls for improved outcomes are reported in the January edition of the *Journal of Vascular Surgery: Venous and Lymphatic Disorders*.

Placement of large-diameter stents has become the mainstay treatment of symptomatic iliofemoral venous occlusion. However, factors affecting the clinical outcome and durable stent patency remain incompletely understood.

While the use of the large caliber, self-expanding stents in venous disease has been widespread, shortcomings such as less radial force at the ends and significant shortening remain issues in its deployment. As such, long-term assessment of its usage is now appropriate given first generation, dedicated venous stents are currently in clinical trial.

Researchers from The Vascular Experts in Darien, Conn., led by vascular surgeon Dr. Paul Gagne, performed a retrospective review of their experience using self-expanding braided elgiloy stents to treat iliofemoral venous obstruction in 67 consecutive patients and 77 limbs treated from 2007-2014.

Their patients were characterized as:

- 55% male
- Median age 63 (range 47-83 years)
- 62% left-sided
- Having a median baseline Venous Clinical Severity Score (VCSS) score of 9 (3-23).

The deployed stents ranged in diameter from 10-22mm and in length from 40-90mm; of those, 82% were 14-18mm in diameter.

Additionally, 22% of stents were deployed into the common femoral vein while 8% involved the inferior vena cava (IVC), demonstrating the importance of landing in normal inflow and outflow vessels.

With regards to patency, at 72 months, those treated for non-thrombotic disease had a:

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- o Primary patency 97%
- o Primary assisted patency 100%
- o Secondary patency 100%

Those treated for thrombotic disease had a:

- o Primary patency 75%
- o Primary assisted patency 88%
- o Secondary patency 88%.

At a median follow up of 26 months, 68% of patients showed a >4 point VCSS improvement, with none with worse symptoms.

Multivariate regression analysis revealed that only common femoral vein involvement predicted loss of primary patency (4.4 times more likely). Post-thrombotic lesions had loss of primary patency 6.9 times more likely, but this did not reach statistical significance (P value of 0.07).

The authors note that they changed their practice of stent sizing and protrusion into the IVC based on early failures in the series. They recommend undersizing the stent relative to the IVC size. In addition, they limit protrusion of the proximal stent into the IVC. Since making these changes, the authors report no instances of contralateral DVT.

“Our experience found that stenting of chronic iliofemoral venous obstruction resulted in excellent long-term patency rates and significant clinical improvement for many patients,” noted Gagne. Although the stents present certain technical challenges, he said, “we have optimized our technique to work through these challenges to achieve good result.”

He further states that, “The analysis of most and least improved limbs found that improved outcomes were observed in patients who presented with more severe venous disease. The most improved subset was disproportionately composed of C6 patients with open ulcers, whereas one-third of the C3 patients treated in the overall series were among the least improved.”

Until randomized clinical trials confirm better efficacy for dedicated venous stents than conservative management, this important well documented series brings additional evidence to the long-term patency and clinical improvement afforded patients following use of large caliber, braided self-expanding stents for iliofemoral venous obstruction.

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