

# The Endovascular Treatment of the Common Femoral Artery Came to Stay: But Which is the Best Option?

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Open surgery has long been acknowledged as the preferred treatment for common femoral artery (CFA) revascularization [1]. However, it's associated with a 15% incidence of mortality/morbidity, including infections, bleeding, and wound-related complications that occur > 60% after discharge and necessitate new treatment in 10% of cases [2]. Endovascular therapy (EVT) has grown in popularity as a result of its less invasive nature and recent studies showing good permeability in both short- and long-term follow-up [3, 4].

When performing CFA EVT, it is important to take into account a number of important factors, including the extent of the CFA's extension into the external iliac artery and towards its bifurcation, the level of calcification, and the presence of occlusion rather than stenosis.

In this study, Yamauchi and colleagues present data from the Cauliflower Study, a large-scale retrospective multicenter registry study that included 791 patients with peripheral artery disease and common femoral artery angioplasty [5]. Lesions extended to the external iliac artery in 10.0% of patients (type I), were isolated in the

CFA in 59.9% of patients (type II), and involved the bifurcation in 30.1% of patients (type III). Lesions involving an occluded bypass were excluded from the analysis. Patients were 74-years-old on average, 73.4% of whom were male, and 53.9% belonged to Rutherford class 3, which was the most prevalent presentation. Moreover, 19.9% and 21.1% of patients, respectively, had subtotal occlusion (99% occlusion) and chronic total occlusion.

Diverse endovascular devices were used, including stent placement in 20.5% of patients, drug-coated balloon angioplasty in 23.2% of cases, and plain old balloon angioplasty (POBA) in 56.3% of cases.

The authors conclude that there are three independent risk factors for restenosis following CFA EVT: a history of CFA endovascular treatment, reference vessel diameter < 6 mm, and a lesion length greater than or equal to 50 mm.

This study's lower patency rates when compared to other studies is likely caused by the low usage rate of stents. In fact, in the Cauliflower study, the primary patency rates for POBA and DEB at 12 months were lower than the primary patency rate of the stent ( $80.1 \pm 3.7\%$  and  $74.9 \pm 6.1\%$  vs  $86.9 \pm 4.3\%$  respectively) [6]. In addition, the *TECCO* trial, which required the placement of stents (67% self-expanding and 33% balloon expandable), demonstrated comparable 2-year patency, sustained clinical improvement, and target lesion revascularization rates for EVT with stenting compared to surgery, but with significantly lower morbidity and mortality and shorter

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hospital stay [3]. These studies emphasize how POBA is less effective at treating CFA lesions than stents.

Yamauchi and colleagues use the Azema classification and separately describe the degree of calcification and stenosis, but since these components are not included in the classification, it is not possible to analyze the lesions associated with the calcium component and the degree of obstruction at the same time [7]. Another important aspect not analyzed is the lesions that affect the bifurcation. Although Zeller and colleagues found no difference regarding target lesion revascularization when comparing groups without (I & II) and with involvement of the bifurcation (III & IV using Rabellino classification) we believe that determining the role of the bifurcations in terms of patency is of critical importance, and we included it in our CFA classification [8, 9].

In conclusion, numerous studies have demonstrated the efficacy of endovascular therapy and the lower morbidity and mortality compared to open surgery.

The challenge in the future will not be to prove that endovascular treatment is better than surgery, but to choose the best therapeutic approach based on the type of lesion treated and the patient's clinical presentation.

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