"Supera Stent for treatment of severe femoropopliteal disease"

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Introduction
The arterial femoropopliteal segment is characterized by anatomical features that limit the patency of endovascular treatments. The length, multiplicity and calcification of the lesions, added to flexion, friction and rotation forces affect the results on this territory. There are no dedicated stents for this special area. The Supera stent is a self-expanding stent formed from six pairs of interwoven nitinol wires. This design avoids stent fracture by adapting to arterial anatomy through improved flexibility, kink resistance, and radial strength, making it more suitable to withstand dynamic forces such as compression, torsion, bending, shortening and pulsation.

Objective
Analyze our experience with the Supera Stent in severe lesions in femoropopliteal territory from December 2013 until December 2016. We evaluate safety, patency and epidemiologic aspects of our population.

Material and methods
From December 2013 to 2016, we treated 47 limbs, implanting 77 stents. The mean age was 72.9 ± 8.88. 38 men and 9 women were enrolled in the study. About clinical stage, 39 patients were TASC C/D (82.9%) 44.7% critical limb ischemia and 53.2% severe and 2.1% mild claudication. The medium rate of calcification PACSS (0-4) was 2.6 ± 1.4, with 60.9% (38) were complete occlusions. Follow-up at 1, 3, 6, 12, and 24 months was performed, with clinical evaluation, ankle-brachial index measurement and doppler ultrasound.

STATISTICAL ANALYSIS
A descriptive study was made of all the variables at baseline, at 30 days, and at 3, 6, 12 and 24 months. The categorical variables were described with the frequency (n) and percentage (%) . For the clinical follow-up variables that can be expressed as continuous variables (ankle-brachial index, intimal thickness and Rutherford classification), the various follow-up times were compared with base-line using the Student’s t test for related samples.

Using the Kaplan-Meier method, the survival function (cumulative probability) of primary and secondary patency was calculated at 12 and 24 months, as well as at the end for follow-up, for the whole sample and for the 39 patients with TASC C or D.

Results

![Graph showing patency rates over time]

- **Primary patency**: No 10 (21.3%)
- **Primary assisted patency**: Yes 37 (80.5%)
- **Secondary patency**: No 45 (95.7%)
- **Secondary assisted patency**: Yes 2 (4.3%)

**Characteristic**
- **Follow-up**: No 19 (40.4)
- **Rutherford**: Asymptomatic 17 (70.0)
- **PSVR less than 2**: Yes 8 (80.0)
- **Primary patency**: No 22 (76.8)
- **Secondary patency**: No 26 (92.9)

**Conclusions**
Our results with Supera Stent are successful in terms of patency and safety, with promising results in complex and long femoropopliteal lesions. In our experience, good pre-dilatation and tailored lesioning curve is necessary. Longer follow-up and larger studies are needed.

**References**