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Clinical outcome and predictors after femoropopliteal stenting with self-expandable nitinol stent for critical limb ischemia

Objective: To investigate the efficacy of femoropopliteal (FP) stenting with nitinol stents for critical limb ischemia (CLI). Methods: This was a multicenter retrospective study. From January 2004 to December 2011, 598 consecutive patients (693 limbs; mean age 74.4 ± 10.3 years; 61.5% male) who underwent successful FP stenting with self-expandable nitinol stents for de novo CLI lesions were selected and analyzed. Outcome measures were primary patency (PP), secondary patency (SP), overall survival (OS), amputation-free survival (AFS), limb salvage (LS), major adverse cardiovascular events (MACE), MALE (repeat revascularization for the limb or major amputation [defined as above-the-ankle amputation]). Results: The mean follow-up period was 19.1 ± 17.2 months. PP was 74.5%, 56.6%, and 38.7%, and SP was 93.1%, 85.3%, and 71.1% at 1, 3, and 5 years, respectively. OS rates were 83.4%, 63.1%, and 49.6%, AFS rates were 78.5%, 59.9%, 46.7%, LS rates were 93.3%, 90.8%, 90.8%, freedom from MACE was 82.1%, 61.5%, 45.7%, and freedom from MALE was 74.8%, 58.5% and 44.2%, respectively. On multivariate analysis by Cox proportional hazard ratio, female gender ($P = 0.048$), BMI ($P = 0.04$), cilostazol administration ($P = 0.005$), and TASC II class C/D ($P = 0.007$) were independent predictors of primary patency after successful FP stenting. Conclusion: Our results suggest that the patency and prognosis of CLI patients due to FP disease who underwent nitinol stent implantation was not promising. However, amputation-free survival and limb salvage rates were acceptable compared with bypass procedure.