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PERIPHERAL VASCULAR

Stenting or Surgery for De Novo Common Femoral Artery Stenosis

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CME/MOC Objective for This Article: At the end of the activity the reader should be able to: 1) appraise the rate of major adverse cardiovascular and local complications in patients undergoing surgical repair of the common femoral artery stenosis; 2) compare the rates of perioperative mortality and morbidity, morphological and hemodynamic outcomes in patients undergoing stenting or surgical repair for de novo common femoral artery stenosis; and 3) recognize the limitations of balloon angioplasty and bioresorbable scaffold deployment in attempting to obtain revascularization for common femoral artery stenosis.

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ABSTRACT

OBJECTIVES The TECCO (Traitement des Lésions Athéromateuses de l'Artère Fémorale Commune par Technique Endovasculaire Versus Chirurgie Ouverte [Endovascular Versus Open Repair of the Common Femoral Artery]) trial is a randomized comparison of safety and efficacy of stenting versus open surgery for de novo common femoral artery (CFA) stenosis.

BACKGROUND Surgery for CFA lesions is considered effective and durable. Despite the widespread use of endovascular repair for infrainguinal disease, the value of this procedure for such lesions is uncertain.

METHODS From February 23, 2011, to September 5, 2013, a total of 117 patients with de novo atherosclerotic lesions of the CFA were randomly assigned to undergo surgery (n = 61) or stenting (n = 56). The main exclusion criteria were asymptomatic disease, restenosis, and thrombosis of the CFA. The primary outcome was the morbidity and mortality rate within 30 days. This includes any general complications or local complications that caused or prolonged hospitalization and/or re-intervention, lymphorrhea of more than 3 days, and post-operative paresthesia that required drugs. The median duration of follow-up was 2 years (interquartile range [IQR]: 19.8 to 24.9 years).

RESULTS Primary outcome events occurred in 16 of 61 patients (26%) in the surgery group and 7 of 56 patients (12.5%) in the stenting group (odds ratio: 2.5; 95% confidence interval: 0.9 to 6.6; $p = 0.05$). The mean duration of hospitalization was significantly lower in the stenting group (3.2 ± 2.9 days vs. 6.3 ± 3 days; $p < 0.0001$). At 24 months, the sustained clinical improvement, the primary patency rate, and the target lesion and extremity revascularization rates were not different in the 2 groups.

CONCLUSIONS In patients with de novo atherosclerotic lesions of the CFA, the perioperative morbidity and mortality rate was significantly lower among patients who underwent endovascular therapy by stenting compared with surgery, whereas clinical, morphological, and hemodynamic outcomes were comparable at mid-term. (Traitement des Lésions Athéromateuses de l'Artère Fémorale Commune par Technique Endovasculaire Versus Chirurgie Ouverte [Endovascular Versus Open Repair of the Common Femoral Artery] [TECCO]; NCT01353651) (J Am Coll Cardiol Intv 2017;10:1344–54)

Despite the widespread use of endovascular repair for infrainguinal disease, surgery is still considered the gold standard treatment for common femoral artery (CFA) atherosclerotic lesions because of its safety and its durability (1,2). Furthermore, endovascular repair for CFA disease, and particularly stent use, could compromise future femoral surgical approaches, increase the risk of potential future surgical CFA interventions, and be associated with stent fracture due to the mobility of the hip joint (2). However, the level of evidence for surgery as the standard for CFA treatment is weak (Level 4, Grade C) (2). Indeed, CFA surgery is poorly evaluated. Only a few prospective or retrospective registries have been reported (1,3–8). Moreover, in a recent large registry from the National Surgical Quality Improvement Program database, the authors stated that surgery was not as "benign" as believed (6).

Therefore, endovascular repair for the CFA should be regarded as an option. So far, conventional balloon angioplasty or bioabsorbable stents have failed to show promising results (9–11). Recent publications have provided data in favor of CFA stainless-steel stenting (9,10,12). In a pilot study, we reported that stenting of CFA lesions seemed to be a safe technique with acceptable clinical outcomes long term (13,14).