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Clinical Decision Making

Indications and Clinical Outcomes for Below Knee Endovascular Therapy: Review Article

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Chronic critical limb ischemia (CLI) still represents the most common cause for amputation and frequently the possibility for peripheral revascularization, particularly in below knee (BK) arteries, is not adequately evaluated before amputation. This may also be due to the fact that even today, there's some confusion about results of the endovascular treatment in this territory. Diabetics, representing the population most frequently affected by CLI, have specific clinical characteristics, the so called diabetic foot syndrome, which cannot be compared with the situation in nondiabetic patients with ischemic ulcers. Measuring the success of BK endovascular therapy can be a difficult issue, considering that it is often the work of a multidisciplinary team. The clinical benefit of BK endovascular therapy often shows a large discrepancy from the primary patency. While ulcer healing, limb salvage, and reintervention rates are usually low after BK endovascular therapy, rates of restenosis remain excessively high. Nevertheless, the positive impact of revascularization on mortality, which mainly depends on the major amputation rate reduction, is also evident. This review article summarizes indications and clinical outcomes after BK endovascular therapy with special attention to the role of diabetes mellitus in patients with CLI.

Key words: peripheral vascular disease; arteries; revascularization

INTRODUCTION

The new technologies developed for endovascular therapy of below the knee (BK) arteries have enhanced dramatically the therapeutic options and outcomes of BK vessel treatment, and expanded indications.

Chronic critical limb ischemia (CLI) still represents the most common cause for amputation and frequently the possibility for peripheral revascularization, particularly in below knee (BK) arteries, is not adequately evaluated before amputation. Thus, CLI has to be considered the most important clinical indication for peripheral revascularization, particularly in the case of BK artery involvement.

Unluckily even today, there's some confusion about indications and results of the endovascular treatment in this territory.

DIAGNOSIS AND INDICATIONS FOR REVASCULARIZATION

Endovascular treatment of BK lesions should be anticipated only under specific clinical and morphological circumstances. CLI, the most important clinical indication for BK intervention, is due to a multilevel arterial disease in the majority of cases, and therefore BK lesions are very often part of the lower limb arterial involvement. Particularly in diabetic subjects, who represent the majority of CLI patients, BK arterial disease is strikingly frequent. Even back in 1984 American vascular surgeons [1] recognized that the best treatment in patients with CLI and ischemic foot lesions is to provide direct flow to the foot arteries, but

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