ABSTRACT

Aims: To evaluate whether pre-procedural computed tomography angiography (CTA) parameters have impact on immediate and late outcomes of endovascular therapy for iliac artery diseases.

Methods: A total of 254 patients who underwent endovascular treatment for iliac artery diseases were retrospectively evaluated. Vessel dimensions and severity of calcification were measured on pre-procedural CTA images. Predictors of immediate and late procedural outcomes were analyzed.

Results: Procedural failure or vessel-specific complications occurred in 29 patients (11%), while passage failure (n=10), rupture (n=9), and distal embolization (n=11). At 2 years, target lesion recanalization (TLR) and all-cause mortality were 6.0% and 8.8%, respectively. Independent predictors of procedural failure or vessel-specific complications were small minimum vessel diameter of the target lesion (odds ratio [OR]=0.88) or external iliac artery (OR=0.67) along with chronic total occlusions (HR=1.05) and severity of calcification (HR=1.34).

Conclusion: Small diameter and severe calcification of the target vessels are adverse immediate and late outcomes after iliac artery intervention.

Table 1. Baseline clinical data

Table 2. Lesion and procedural characteristics

Table 3. Predictors of procedural failure or complications

Table 4. Predictors of TLR and all-cause mortality

Figure 1. Number and incidence of failure of procedure according to vessel diameter at the target lesion (A) and external iliac artery (B).

Figure 2. Univariate analysis for pre-procedural CTA predictors of rupture, distal embolization, and wire passage failure.

Figure 3. Kaplan-Meier survival curves of TLR (A) and all-cause mortality (B).