Covered stents for endovascular repair of iatrogenic injuries of iliac and femoral arteries.

The growing number of complex endovascular procedures is expected to increase the risk of iatrogenic injuries of peripheral arteries. A strategy of percutaneous transluminal angioplasty (PTA) with covered stent (CS) may represent a valuable alternative to open surgery. However, systematic evaluations of CS in this setting represent a scientific gap. In the present study, we investigate the procedural and clinical outcomes associated with PTA and CS implantation to repair iatrogenic injuries of peripheral arteries. All patients undergoing PTA with CS for endovascular repair of iatrogenic injuries of peripheral arteries between August 2010 and July 2013 at our Institution were retrospectively analyzed. The primary endpoint was the technical success. Secondary endpoints were in-hospital mortality and cumulative death, target lesion revascularization (TLR), amputation and major stroke at 12-month follow-up. During the period of observation, a total of 30 patients underwent PTA with either self-expandable (43.3%) or balloon-expandable CS (56.7%) for iatrogenic injuries of peripheral arteries. Injuries consisted of perforation/rupture (76.7%), arteriovenous fistula (16.7%) and pseudoaneurysm (6.7%) of iliac-femoral arteries. Technical success was achieved in all cases.
Median follow-up was 409 days [210-907]. The incidence of in-hospital mortality was 10.0%. At 12-month follow-up, the incidence of death, TLR, amputation and major stroke was 20.0%, 17.0%, 3.3% and 6.7%, respectively. The use of covered stents for endovascular repair of iatrogenic injuries of peripheral arteries shows a high technical success and may be alternative to surgery. Further studies with larger populations are needed to confirm these preliminary findings.