

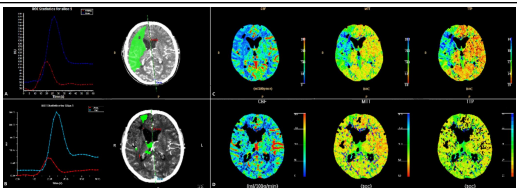


Introduction

Acute ischemic stroke (AIS) is the third leading cause of death. Arterial stenosis is a common cause of stroke, with a high risk of recurrent stroke. Treatment guidelines for AIS and transient ischemic attack (TIA) are still under debate. Treatment guidelines for progressive CVA or crescendo TIA's do not exist. Percutaneous transluminal angioplasty and stenting (PTAS) is an increasingly attractive treatment option, whose efficacy is to be proven. Stent placement posses both short and long term risks such as immediate ischemic events, in-stent stenosis and stent breakage. Thus, the choice of stent type is critical. Advances in stent technology have made cerebral stent placement a viable option. We report our experience with the LEO + (Balt Extrusion, Montmorency, France) nitinol flexible self expanding stent for the treatment of progressive CVA or crescendo TIA's.

Methods

12 patients, presenting with an evolving clinical picture of crescendo TIA or progressive CVA not halted by optimal medical care, were treated. Patients had a corresponding arterial first generation arterial narrowing and evidence of cerebral infarction on



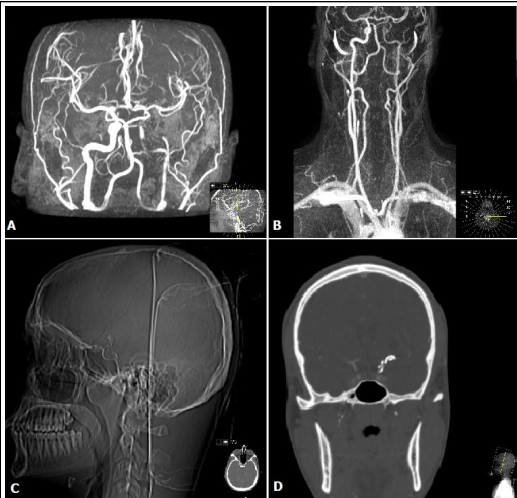
A, CT-Perfusion pre-stenting, reference vessel selection ROI statistics and axial representation. B, CT-Perfusion post-stenting, reference vessel selection ROI statistics and axial representation. C, Pre-stenting cerebral blood flow (CBF) showing a decreased flow in right fronto-parietal region, pre-stenting mean transit time (MTT) showing an elevated transit time in right fronto-parietal region and pre-stenting time to peak (TTP) showing an elevated time in right fronto-parietal region. D, Post-stenting CBF showing an improved near normal flow in right fronto-parietal region, post-stenting MTT showing an improved near normal transit time in right fronto-parietal region and post-stenting TTP showing an improved near normal time in right fronto-parietal region.

Results

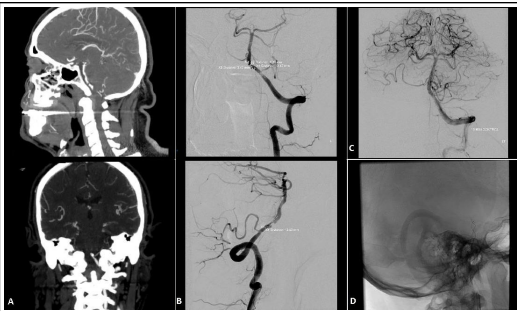
Twelve patients aged 17~75 years were treated during the study period (20 months). Sixteen Nitinol flexible self expanding stent (LEO +, Balt Extrusion, Montmorency, France) were placed. All patients showed moderate to substaintial improvement in neurological functioning after the procedure.

Conclusions

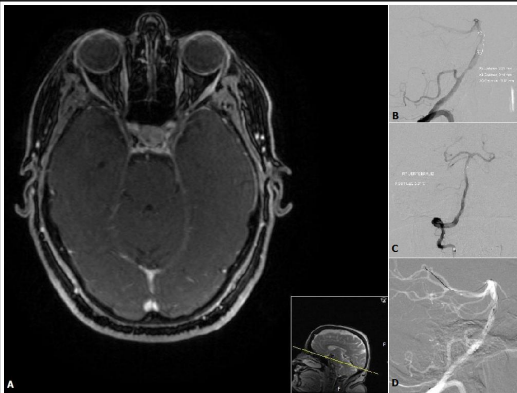
PTAS should be considered as a treatment option in case of progressive CVA or crescendo TIA's and appropriate anatomical findings with substancial improvement in functional and neurological status.



A+B, MRA reconstruction showing Left internal carotid artery (ICA) concentric stenosis and dissection at the cavernotic and supra-clinoid section, ICA and left middle cerebral artery (MCA) partial thrombotic occlusion (C5-C6). C+D, post stenting sagittal plain film and coronal tomography showing stent position and vessel patency.



1. A, CTA in sagittal and coronal views, showing Vertebral (V4) & Basilar artery stenosis and acute thrombosis, right hypoplastic VA. B, Angiography in lateral and posterior views, showing arterial narrowing, measurements and stent position planning. C+D, Angiography post-stenting showing a patent dilated posterior circulation (C) and stent position in lateral films (D).



. A, axial MRA showing mid-basilar artery severe stenosis. B, angiography in lateral view, showing arterial stenosis, measurements and stent position planning. C+D, angiography in lateral and postero-lateral views, showing dilated patent artery after stenting and stent position.