

The Balloon Bridge: A Novel Technique for Reaccessing a Carotid Artery Stent

David Rafael Santiago-Dieppa MD; Vincent J. Cheung MD; Jeffrey A. Steinberg; Arvin Raj Wali BA; Usman Khan MD, PhD; Alexander Arash Khalessi MD MS FAHA; Jeffrey Scott Pannell MD



Department of Neurological Surgery, University of California San Diego, San Diego, California, USA

Introduction

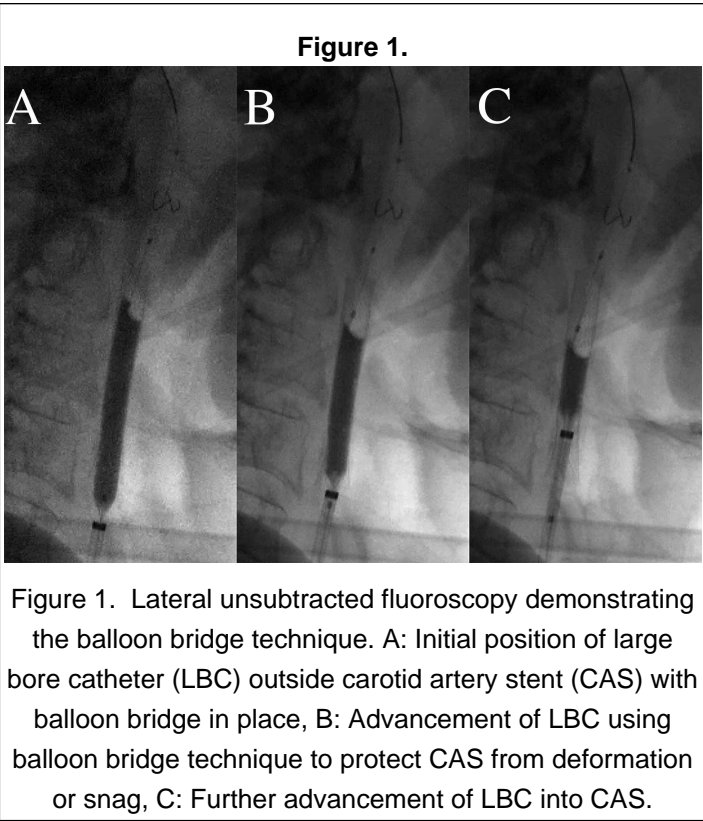
Crossing a nascently deployed carotid artery stent (CAS) with a large bore catheter (LBC) is required in order to recapture the distal embolic protection device. However, life-threatening complications can occur secondary to LBC induced stent deformation, displacement, or mechanical occlusion. A traversing LBC that is eccentric and tangentially angled to the vertical axis can become caught at the proximal CAS step-off. Anatomically, the risk of CAS snag is increased by carotid tortuosity inherently promoting CAS step-off. In this study, we report the development and application of a novel “balloon bridge” technique for safely crossing a CAS with a LBC.

Methods

Five patients with >70% stenosis of the carotid artery underwent routine CAS, balloon angioplasty, and distal embolic protection. At the time of filter recapture, the balloon was inflated across the junction of the distal LBC tip and proximal CAS centering the LBC within the lumen of the vessel and CAS. During the deflation of the balloon, the LBC was sequentially advanced successfully navigating the LBC across the proximal stent construct without resistance or complication at the index attempt in each case. (Figure 1)

Results

We have found that this technique is safe and effective. We believe that the mechanism of action is secondary to balloon facilitated LBC alignment with the true axis of the stent. Since the development of this technique by the senior author, it has been successfully utilized at our institution in five procedures that require concurrent use of balloon angioplasty and CAS.



Conclusions

Traversing a CAS with a LBC can be exceedingly tedious and fraught with the potential of neurologic peril should mechanical deformation and occlusion occur. The balloon bridge technique is a safe and highly effective method for navigating a catheter that is eccentric or tangentially angled to the long axis of a CAS.

Learning Objectives

A balloon can be used to decrease the risk of reaccessing a carotid artery stent.

References

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