Tandem asymptomatic proximal Common Carotid or Innominate lesions during CEA or CAS- When to treat and how?

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Disclosures

• None
When to treat?

- Internal carotid disease should be treated if high grade >70% in asymptomatic patients

- Proximal lesions should be treated in asymptomatic patients if very high grade/pre-occlusive

- When the two coexist if intervention is planned, both lesions should be treated simultaneously
Tandem lesions

• Significant disease involving carotid bifurcation and proximal ipsilateral great vessel is uncommon

• Incidence 4.8%¹

Patterns of disease

How to treat?

CEA with retrograde stent placement

Thirty day stroke rate 1.5\%²

Low risk related to ICA being clamped during the angioplasty procedure, preventing embolization

Stent first or endarterectomy first?

- Retrograde angioplasty and stenting first, extensive flushing and then CEA

- Predilation versus primary stenting
Endarterectomy first?

- CEA can be performed initially

- Minimizing CCA clamp time after stent implantation that may induce thrombus formation³

Technical points

• 23cm long sheath

• Hydrophilic wires to be avoided, as they may be more likely to cause dissection

• Premounted balloon expandable stents for ostial lesions

• Stent should be placed few mm into the aorta
Simultaneous CAS of tandem lesions

• If the patient has any element of hostile neck anatomy (previous surgery, radiation, tracheostomy) both lesions should undergo endovascular treatment

• Treat distal to proximal

• Much less reported in literature compared to retrograde treatment
Endovascular management of both lesions

Studies

- 5 patients
- Simultaneous ICA/CCA
- 100% technical success
- Mortality 0%
- One TIA- no filter

Background
High-grade stenoses of both common (CCA) and the internal (ICA) carotid arteries are rare and represent a therapeutic dilemma for the treating physician. The aim of this article is to present our experience with fully endovascular repair of those lesions.

Methods
Between January 2011 and December 2012, 5 patients (all male, age 73.8 years) with concomitant CCA and ICA stenoses were treated endovascularly. All patients were asymptomatic. The lesions involved the left carotid in 3 and the right carotid in 2 cases. Common carotid artery stenosis was located at the osium (1 patient), the middle (3 patients) and the distal segment (1 patient) of the CCA. In 3 cases, CCA stenting was initially performed followed by ICA treatment, whereas in the remaining 2, ICA stenting preceded CCA stenting. A filter embolic protection device was used in 2 cases.

Results
All procedures were successfully completed. Technical success rate was 100%. Mortality rate was 0%. One patient experienced transient neurologic complication. An 82-year-old who underwent left mid-CCA and ICA stenosis without embolic protection device suffered a transient ischemic attack with dysarthria lasting for a few minutes. A 73-year-old patient with left CCA and ICA stenosis and occlusion of the right ICA who underwent stenting under cerebral protection experienced symptoms consistent with cerebral hypoperfusion. Patients were followed up for a mean of 6 months. No neurologic complications or stent restenosis were detected.

Conclusions
Angioplasty and stenting is a technically feasible method for the treatment of concomitant CCA and ICA stenosis with acceptable short- and mid-term results.
Conclusions

• Tandem lesions can be successfully treated

• CEA with retrograde stent provides best protection from embolization

• Complete endovascular management can be performed when open carotid exposure via neck incision is high risk
Questions?