
Authors: V.Gavrilović, A.Vit, A.Pellegrin, M.Sponza
“Santa Maria della Misericordia” - University Hospital Udine/Italy

Introduction
Carotid endarterectomy (CEA) is still considered the gold standard in the treatment of patients with both symptomatic and asymptomatic carotid stenosis. The role of carotid artery stenting (CAS) remains highly controversial. While some medical specialists have interpreted the disappointing results of CAS in randomized comparisons with CEA, as clear-cut clinical evidences, other have suggested that most of the trials may have compared the two revascularization modalities in an unfair way.

The concept of “vulnerable plaque” was born, referring to those plaque’s parameters that concur to the instability of the plaque making it more prone to the rupture and distal embolization. Embolization risk could be divided in:

Periprocedural
- Catheter manipulations at the level of the aortic arch may be an important source of emboli - technique accuracy
- Embolic release during the plaque crossing or stenting - embolic protection devices
- Scaffolding: prolapse and consequent release of plaque material through the stent strut - do we have a solution?

Postprocedural (late embolization)
- Cause of late embolization. Plaque protrusion may lead to late events: (2/3 MACCE)

As far, today, one of the recent innovation, is the introductions of double mesh/hybrid carotid stents, which should improve plaque coverage and reduce intraprocedural and late distal embolization.

Advantages:
- Nitinol stent platform
- 6F (2mm OD) Self-expanding system
- 4 radiopaque markers
- Smart Fit Technology
- Open cell design
- Dual layer design with MicroNet

Materials & Methods
From August 2015 until October 2017, 85 Pt. (59M; 26F; mean 72.92y) underwent CAS. High grade carotid stenosis, using NASCET methodology; vulnerable carotid plaque was detected on duplex ultrasound (DUS) study and confirmed on angio-CT exam in 50 (58.8%) symptomatic and 35 (41.2%) asymptomatic Pt. In 22.4% of Pt. near-occlusion lesion was pre-dilated with coronary balloon on 3.3 mm. The stent was deployed under distal (n=71) or proximal cerebral protection (n=14). All stents were post-dilated. Clinical-neurologic evaluation and DUS follow-up (FU) was performed at 24 h and 1, 6, 12 months after treatment.

Patients Characteristics

<table>
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<tr>
<th></th>
<th>Symptomatic</th>
<th>Asymptomatic</th>
<th>Total</th>
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<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>M</td>
<td>39 (45.9%)</td>
<td>20 (23.5%)</td>
<td>59</td>
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<tr>
<td>F</td>
<td>11 (11.3%)</td>
<td>15 (10.6%)</td>
<td>26</td>
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<tr>
<td>Total</td>
<td>50 (58.8%)</td>
<td>35 (41.2%)</td>
<td>85</td>
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<td>Average age (years)</td>
<td>72.8</td>
<td>73</td>
<td>72.92</td>
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<td>Medium stenosis of treated carotid (%)</td>
<td>76.2 ± 5.3%</td>
<td>84.6 ± 8.3%</td>
<td>80.9 ± 7.1%</td>
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<td>Near-occlusion stenosis of treated carotid (&gt;90%)</td>
<td>9 Pt (10.6%)</td>
<td>10 Pt (11.8%)</td>
<td>19 Pt (22.4%)</td>
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UDINE results: August 2014–October 2017

Embolic Protection Device: 14 Proximal Embolic Protection 71 Distal Filter Protection

Preadmission of stenosis: 19 Pt, 22.4%
Difficult closure and retraction of distal filter: 2 pt, 5%
Residual stenosis (after CAS): 7.4 ± 3.2%
PRIMARY OUTCOMES: MACCE (Death, Stroke, MI): 0%
Minor Per-Procedure Event (Amurrosis Fugax): 1 pt, 2.5%
Modified Rankin Scale (MRS), NIHSS when discharged: 0
Of all 85 Pt.
Ultrasound/Clinic FU: 1 mth 85 Pt (100%); 6 mths 69 Pt (81%); 12 mths 55 Pt (65%)

Discussion
- In a Pt. with a high grade, pre-occlusive stenosis the pre-dilatation is mandatory for an appropriate MicroNet covered stent deployment.
- Optimal compliance on tortuous vessel and precise placement accuracy.
- In very tortuous vessel distal filter closure and retraction over the deployed stent could be difficult, MoMa system of 9F could be a good option in those cases.

Conclusions
With the limits of our study, concerning a small series of patients with short and mid-term follow-up, stent was deployed in all cases with a good adaptability to the vessel anatomy, and with a low incidence of distal embolizations. Therefore we suggest that in patients with vulnerable plaque and high grade carotid artery stenosis, MicroNet covered stenting is a safe technique and could offer clinical benefits for patients undergoing CAS confirmed by the experience from the other studies PARADIGM 10, CARENET 11, IRON GUARD 12.

References:
Disclosure

Speaker name:
MD. Vladimir Gavrilovic

have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest