BYPASS FOR SYMPTOMATIC IN-STENT CAROTID RESTENOSIS

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Objectives
In-stent restenosis (ISR) after CAS is a relatively common complication (5-12%). Usually, a new endovascular intervention is proposed, but catheter based procedures reveal unsatisfactory long-term results, and in some cases, stent removal and carotid reconstruction are required.
The aim of the present study was to evaluate early and long-term outcomes of symptomatic patients treated for intra-stent carotid restenosis (ISR) with carotid bypasses (CB).

Methods
Retrospective study on CB performed in two high-volume Italian centers between 2008 and 2016, for symptomatic high-grade ISR after CAS.

After carotid endarterectomy and stent removal, a greater saphenous vein (GSV), preferentially, or a 6mm polytetrafluoroethylene (PTFE) graft was implanted.

Standard follow-up protocol included clinical examinations, DUS and CTA at one month after surgery.

In the absence of new clinical events, a routine duplex surveillance was scheduled at three, six and 12 months and yearly thereafter.

Measures considered for analysis were perioperative (30-day) and long-term follow-up of new ipsilateral cerebral events, neurological events and all causes of death, and needs for reintervention. In addition, peripheral nerve palsy, cervical hematoma, and other local complications after surgery were noted.

Results
The population of the study comprised 13 patients (11 men and two women; median age was 66.5 years (range 56-88).

Mean times from index CAS to stent explantation were 38.9 ± 18.2 months. Surgical history of treated patients is reported in the Table.

General anesthesia was performed in 5 (41.7%) cases; all other procedures were performed under local anesthesia (58.3%). Selective carotid shunts were required in 2 patients (17%).

GSV grafts were used in seven cases (53.8%) and PTFE grafts in the remaining six (46.2%) cases.

Intraoperative neurological complication rates were null.

One patient, with ISR after post-CEA restenosis, presented with a transient dysphagia. @ 30-day no new neurological complications, reinterventions or deaths occurred.

@ 41.2±18.2 months follow-up, 3 patients died, in absence of further neurological events. At DUS examinations, all CB were patients without reintervention. One patient treated by PTFE graft developed a non-hemodynamically restenosis.

Conclusions
In our experience, CB offers satisfactory results in patients treated for symptomatic ISR, with an acceptable risk of cranial nerve injuries even in patients with prior carotid surgery.