TCT-561
Safety and Efficacy of Carotid Stenting in the Treatment of Carotid Artery Stenosis: Immediate Results and Long Term Follow-up

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Background: Carotid artery stenting may be an alternative to surgical endarterectomy for the treatment of atherosclerotic carotid artery stenosis. Aim of our study: to analyze retrospectively the procedures of carotid artery stenting performed in our Centre between January 2004 and December 2012.

Methods: This analysis includes 604 procedures performed in 554 patients (382 men; mean age: 72 years old). Symptomatic patients with carotid artery stenosis > 50% were the 45%; we treated asymptomatic patients affected by > 70% stenosis. 398 patients (72%) were considered at high surgical risk; 207 (37%) with severe contralateral stenosis; 136 (24%) with severe or unstable angina, poor left ventricular function; left main disease or trivascular coronary artery disease, severe cardiac valve disease; 35 patients (6%) presented restenosis after surgical treatment. 28 (5%) patients were treated with urgent coronary artery by-pass grafting (CABG) immediately after Carotid artery stenting; 108 (19%) patients underwent staged CABG one month after Carotid artery stenting. Distal cerebral protection devices were used in 85% of the procedures. Soft plaques were present in 110 patients (18%). 49 (9%) patients were submitted to Carotid artery stenting for bilateral carotid artery stenosis.

Results: Successful immediate angiographic result in 99% of the patients. Major complications occurred in 11 patient (1.9%) and included: death (1 fatal stroke), major stroke (3), intracerebral hemorrhagic stroke (1), minor stroke (5), acute onset thrombosis (1 patient with thromboendoartietomy and stent removal). Puncture site hematoma occurred in 4 patients treated with vascular surgical repair, one patient died for hemorrhagic shock. Complete follow up in 95% of the patients. Instant restenosis occurred in 6 patients (1%) and was successfully treated with a new stenting. 50 patients died (22 for cardiovascular causes, but no one died for cause directly related to Carotid artery stenting).

Conclusions: In our experience Carotid artery stenting is a safe procedure with low complications also in high risk patients; the long term efficacy of Carotid artery stenting is very good with low rate of restenosis.

TCT-562
Internal Carotid Artery “Near-occlusion”: Multi-detector CT Angiography Assessment At Baseline And After Carotid Artery Stenting

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Background: Carotid “near-occlusion” (NO) is a high-grade stenosis of the internal carotid artery (ICA) with collapse of the distal lumen. No data have been reported regarding ICA flow and lumen diameter recovery after surgical or endovascular treatment.

Methods: Twenty-nine consecutive patients (male 73%, mean age 70±9 years) with NO were submitted to ICA stenting with cerebral protection. Multi-detector CT angiography (MDCTA) was carried out at baseline and at follow-up after CAS in all patients. Diameter of distal target and contralateral ICA were measured at 3 cm interval by MDCTA at baseline and at follow-up and vice versa for contralateral ICA (R<0.033 for target ICA and R<0.056 for contralateral ICA diameter). No significant changes occurred in either common or external carotid artery on both sides. Carotid stenosis was calculated with the ECST formula. The method was selected by interventional cardiologist and vascular surgeon, based upon plaque morphology and cardiovascular risk.

Results: Successful immediate angiographic result in 99% of the patients. Major complications occurred in 11 patient (1.9%) and included: death (1 fatal stroke), major stroke (3), intracerebral hemorrhagic stroke (1), minor stroke (5), acute onset thrombosis (1 patient with thromboendoartietomy and stent removal). Puncture site hematoma occurred in 4 patients treated with vascular surgical repair, one patient died for hemorrhagic shock. Complete follow up in 95% of the patients. Instant restenosis occurred in 6 patients (1%) and was successfully treated with a new stenting. 50 patients died (22 for cardiovascular causes, but no one died for cause directly related to Carotid artery stenting).

Conclusions: In our experience Carotid artery stenting is a safety procedure with low complications also in high risk patients; the long term efficacy of Carotid artery stenting is very good with low rate of restenosis.

TCT-564
Carotid Artery Stenting In Patients With Contra-lateral Stenosis Or Occlusion. A Single Center Experience Of More Than 1100 Cases

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Background: Carotid artery stenting (CAS) is assumed to be associated with a higher complication rate in patients (pts) with a contra-lateral occlusion or stenosis of more than 50%. We retrospectively analyzed data from our center to quantify complication rates in patients undergoing CAS in these subgroups.

Methods: In a series of 1125 consecutive pts undergoing CAS in our center between December 1997 and January 2014, 87 pts (7.7%) had a contra-lateral occlusion of the carotid artery (group 1), and 215 pts (19.1%) had a contra-lateral stenosis of > 50% (group 2), and 823 pts (73.2%) had no contra-lateral stenosis (group 3).

Results: CAS was successful in all patients but 30 (28 of them in group 3, and two in the group 2). Stenting was successful in all cases of pts of group 1. The mean degree of stenosis was reduced from 82.7 ± 9.7% to 3.2 ± 7.5% in group 1, 86.3 ± 8.6% to 3.8 ± 8.2% in group 2 and 85.8 ± 10.4% to 3.2 ± 6.5% in group 3 respectively. The mean stent length was 24.1 ± 8.9 mm in group 1, 26.9 ± 9.6 mm in group 2 and 27.7 ± 10.0 mm in group 3. The mean interventional time was 16.8 ± 11.0 min, 16.3 ± 11.3 min and 16.9 ± 10.6 min in these three groups. The rate of major cerebral complications (fatal or non-fatal major stroke, minor stroke, PRIND, TIA) was 8.1% in group 1, 9.8% in group 2 and 8.5% in group 3 (p=ns between all groups). As cerebral protection devices were consecutively used since April 2004, 37 pts of group 1 (42.5%), 124 pts of group 2 (57.7%) and 499 pts of group 3 (60.9%) were stented under cerebral protection, respectively. The use of protection devices was associated with a significant reduction of the complication rate in all 3 groups (5.4% in group 1, 6.5% in group 2 and 6.8% in group 3, respectively) with no significant difference between the groups.

Conclusions: Compared to pts with a patent contra-lateral vessel, CAS in pts with contra-lateral stenosis or occlusion is not associated with an increased risk for peri-interventional cerebral complications. The use of cerebral protection devices for CAS reduces peri-interventional cerebral complication rates in patients with and without a patent contra-lateral vessel.

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Lessons Learned From Application of the Multilayer Flow Modulator Device Outside the Indications in Patients With Thoracoabdominal Pathologies

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Background: To scrutinize registry data on thoracoabdominal repairs performed using the Multilayer Flow Modulator (MFM) outside the indications for use (IFU) and analyze the adverse outcomes.

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