**Supplementary Figure 1**: The primary internal carotid artery patency rate of patients with NO and patients with TO treated with hybrid procedures. NO: near total occlusion; TO: total occlusion.

**Supplementary Table 1**: Clinical characteristics of patients with NO and patients with TO.

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| --- | --- | --- | --- | --- | --- |
| NO/TO-No. | Symptoms | Duration of symptoms or ICA stenosis | Site of crebral infarction (CT/MR) | CTP or ECT | ICA stenosis (Right/Left) |
| NO-1 | Extremity adynamia | 3 years | Multi cerebral infarction | (ECT) Right frontal, temporal lobe decreased perfusion | Right: NOLeft: 50% |
| NO-2 | Dizziness, flustered | 3 months | Obsolete cerebral infarction | Diffused hypoperfusion of cerebrum | Right: post-CASLeft: NO |
| NO-3 | Deviation of mouth angle | 3 months | Lacunar infarction | Negative | Right: NOLeft: OK |
| NO-4 | Extremity adynamia, barylalia | 4 months | Periventricular (left)，Basal ganglia | none | Right: OKLeft: NO |
| NO-5 | Facial numbness，Extremity adynamia | 3 months | Lacunar infarction | None | Right: OKLeft: NO |
| NO-6 | Extremity adynamia | 4 months | Multi cerebral infarction (right), lacunar infarction | Diffused hypoperfusion, right side more evident | Right: NOLeft: 50% |
| NO-7 | Dizziness, headache | 3 years | Multi lacunar, periventricular (right) | Diffused hypoperfusion, right side more evident | Right: NOLeft: 50% |
| TO-1 | Intermittent dizziness | 2 years | Lacunar infarction | (ECT) Left cerebral hypoperfusion | Right: post-CASLeft: TO |
| TO-2 | Blurred vision, dizziness, extremities numbness | 1 year | Multi cerebral infarction | (ECT) Bilateral frontal, parietal, temporal, ganglion hypo perfusion | Right: post-CASLeft: TO |
| TO-3 | Barylalia, extremities adynamia | 1 year | Right parietal lobe, basal ganglia | (ECT) Right frontal, temporal, basal ganglia hypoperfusion | Right: TOLeft: OK |
| TO-4 | Extremity adynamia, barylalia; ecurrent TIA | 3 months | Right frontal, parietal, periventricular | Right frontal, temporal, hypoperfusion | Right: TOLeft: OK |
| TO-5 | Amaurosis fugax Extremity adynamia | 3 months | Multi infarction-bilateral frontal, left temporal | Bilateral, diffused hypoperfusion | Right: TOLeft: TO |
| TO-6 | Dizziness | 3 months | Right frontal, parietal, temporal | Diffused cerebral hypoperfusion, right side more evident | Right: TOLeft: OK |
| TO-7 | Dizziness | 4 months | Right frontal, parietal | Diffused cerebral hypoperfusion, right side more evident | Right: TOLeft: OK |
| TO-8 | Extremity adynamia, barylalia | 3 months | Right frontal, parietal | Right middle cerebral artery perfusion decreased | Right: TOLeft: OK |
| TO-9 | Extremity adynamia | 3 months | Multi infarction-left hemicerebrum | Left cerebral hypoperfusion | Right: OKLeft: TO |

CTP: Computed tomography perfusion; ECT: Emission computed tomography; ICA: Internal carotid artery; NO: Near total occlusion; TO: Total occlusion.

**Supplementary Table 2**: Hybrid procedures for patients with NO and patients with TO.

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| --- | --- | --- | --- |
| NO/TO-No. | Hybrid protocol | Endovascular procedures | Results |
| NO-1 | CEA+ICA angiogram | None | Failure |
| NO-2 | CEA+ICA angiogram | None | Success |
| NO-3 | CEA+ICA angiogram | None | Success |
| NO-4 | CEA+ICA angiogram+stenting | Angioplasty+stenting (WALLSTENT®) | Success |
| NO-5 | CEA+ICA angiogram | None | Success |
| NO-6 | CEA+ICA angiogram | None | Success |
| NO-7 | CEA+ICA angiogram+stenting | Anigioplasty+stenting (WALLSTENT®) | Success |
| TO-1 | CEA+angiogram+angioplasty+stenting | Angioplasty+stenting(Enterprise\*2+Wallstent\*1) | Success |
| TO-2 | CEA+angiogram+angioplasty+stenting | Angioplasty+stenting(Enterprise\*1+Wallstent\*1) | Success |
| TO-3 | CEA+angiogram | None | Success |
| TO-4 | CEA+angiogram+angioplasty+stenting | Angioplasty+stenting(EZ\*2+Wallstent\*1) | Success |
| TO-5 | CEA+angiogram | None | Failure  |
| TO-6 | CEA+angiogram+angioplasty+stenting | Angioplasty+stenting(Wingspan\*2+Wallstent\*1)  | Success |
| TO-7 | CEA+angiogram+angioplasty | Angioplasty | Success |
| TO-8 | CEA+angiogram+angioplasty+stenting | Angioplasty+stenting(EZ\*2+Wallstent\*1) | Success |
| TO-9 | CEA+angiogram+thrombectomy | Thrombectomy | Success |

CEA: Carotid endarterectomy; NO: Near total occlusion; TO: Total occlusion.