Neurosalvage: Acute Embolic Stroke (MCA, M1) After Ablation of Paroxysmal Supraventricular Tachycardia

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[CLINICAL INFORMATION]

Patient initials or identifier number. W, T-F

Relevant clinical history and physical exam. The 78 y/o man was admitted for RFCA of PSVT. EPS revealed o-AVRT with left lateral kent bundle. Procedure was performed under propofol infusion. Retrograde approach failed due to tortuosity of aorta. Altered consciousness with right sided weakness and slurred speech developed after off propofol. Perfusion brain CT revealed acute left MCA infarct. Carotid angiography showed left MCA total occlusion and PTA restored blood flow. The consciousness improved to E4M5V2 immediately.

Relevant test results prior to catheterization. Perfusion CT

1. Hyperdense MCA at left distal M1.
2. Low-density change at left lateral putamen, insula, fronto-temporoparietal lobe. Mild mass effect is shown.
3. Segmental occlusion of left M1. Distal branches are still opacified.
   Poor parenchymal enhancement of left insula and fronto-temporoparietal lobe is noted.
4. A 1.1cm aneurysm with calcified wall at left intracranial vertebral artery
Relevant catheterization findings.

[Interventional Management]

Procedural step.
1. Right femoral artery punctures
2. Engage Left common carotid artery with 7F JR4
3. Wiring with microcatheter (excelsior) + Runthrough NS wire to left middle cerebral artery
4. Tip injection confirmed true lumen
5. Blood flow of MCA territory restored after successful wiring and the patient became agitated (compared to previous comatous status)
6. Balloon dilatation with Ikauchi 2 X 15 mm at M1 level
7. Blood flow in large MCA territory was restored in the final shot.
8. No other complication noted during this procedure
Case Summary. The methods of neuro salvage for iatrogenic embolization in our hospital is previously reported, including intra-arterial pharmacotherapy and mechanical emboli manipulation. The procedural details are divided into 3 steps. In this case, we used intra-arterial heparinization, microcatheter rotation and balloon angioplasty (step 2) for thrombi fragmentation. The clinical result improved dramatically with limited neurological sequelae remained. The patient was admitted again for 2nd try of RFCA for the PSVT with success. Familiarity with procedure of neurosalvage is important and we are glad to share our experience with everybody.

TCTAP C-070
Staged Endovascular Revascularization of the Brachiocephalic Arteries
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[CLINICAL INFORMATION]
Patient initials or identifier number. Igna-01
Relevant clinical history and physical exam. Atherosclerosis. 75% stenosis of the left ICA, 85% stenosis of the right ICA. Sub occlusion of the left subclavian artery, subclavian steal syndrome. Chronic cerebrovascular insufficiency, 1st degree. Arterial hypertension, 2nd degree.
Relevant test results prior to catheterization. Long-standing arterial hypertension(max. 180/100 mm Hg). Absence of retrosternal pain. In September 2013, after physical exercise, the patient experienced a blackout, an episode of sudden weakness and vertigo, which resolved spontaneously within several minutes.
Relevant catheterization findings. Angiography of the brachiocephalic arteries sowed 75% stenosis of the left ICA, 85% stenosis of the right ICA, subocclusion of the first segment of the left subclavian artery.

INTERVENTIONAL MANAGEMENT
Procedural step. The first stage of the intervention consisted in the stenting of the left subclavian and the left internal carotid arteries. Was proceed mechanical recanalization, balloon angioplasty and stenting of the left subclavian artery from transfemoral access (stent Express Vascular 8 × 27 mm). Then was done stenting of the left ICA (self-expandable stent system Acculink 6 × 30 mm). In 2 months we performed second stage - stenting of the right ICA from trans femoral access (self-expandable stent system Acculink 7 × 32 mm).

Case Summary. In all cases was obtained optimal angiographic results. Endovascular management of multifocal lesion of the brachiocephalic arteries is effective, less traumatic and should be performed in a staged way.

TCTAP C-071
Rescue of Iatrogenic Vertebral Artery Cannulation - Endovascular Treatment for Misplaced Central Venous Catheter in the Vertebral Artery
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[CLINICAL INFORMATION]
Patient initials or identifier number. Mrs. L
Relevant clinical history and physical exam. A 70-year-old woman, with HCC, DM and ESRD, was admitted to our ICU due to septic shock. A 7 Fr. 3-lumen CVC (Arrow-Howes multi-lumen CVC 30cm, Arrow International, USA) was attempt to be inserted into her left "internal jugular vein" without echo guidance. However, regurgitation of blood was noted on CVC line, and arterial waveform was detected when using pressure transducer for CVP level......

Relevant test results prior to catheterization. Blood sampled from CVC demonstrated typical arterial rather than venous blood gas reading. Post cannulation chest plain film revealed that the CVC did not enter the heart through the superior vena cava which was outline by dialysis catheter in the right internal jugular vein. Computed tomography angiography of neck showed that the CVC was inserted into left vertebral artery, at the level between C5 and C6 transverse processes, passing through C6 transverse foramen, and terminated at ascending aorta.