USE OF BALLOON IN STUCK DELIVERY SYSTEM IN CAROTID ARTERY STENTING: A BAILOUT TECHNIQUE

Dr Chirag Jain | Dr Ajay Kumar
Postgraduate Institute of Medical Education and Research (PGIMER), Sector-12, Chandigarh, India

HISTORY AND PHYSICAL:

75 year old male patient presented with complaint of recurrent transient ischemic attacks (TIAs) in the form of right sided upper and lower limb weakness and syncopal attacks since the past 2 years. Patient was on regular medications with antiplatelet agents and statins. On examination, patient was E4V5M6 status with no deficits when he presented to the our hospital. Patient had no other co-morbidities.

IMAGING:

Non contrast CT head was done and revealed chronic ischemic changes in bilateral cerebral hemispheres. CT angiography showed complete occlusion of right internal carotid artery (ICA) with collateralization from external carotid artery (ECA), bilateral vertebral artery(VA) origin stenosis (approximately 40% on right and 80% on left side) and left ICA origin short segment critical stenosis. These findings were confirmed on diagnostic DSA.

INDICATION FOR INTERVENTION:

Recurrent TIAs not responding to medications with aforesaid imaging findings required securing of the left ICA circulation.

INTERVENTION:

Patient was planned for left ICA balloon angioplasty with stenting. Right femoral access was gained using 8F long sheath and over .014" wire, pre-dilatation balloon angioplasty was performed followed by deployment of self-expandable stent. There was residual significant narrowing at the site of stenosis after complete stent deployment. During the retrieval of the delivery system, the tip of the delivery catheter of the stent (distal marker) engaged in the stent struts at the narrowed portion. Maneuvers such as pull and tuck, rotation of the delivery system failed, despite repeated attempts, and contralateral groin puncture with balloon assisted retrieval of the delivery system was done. However, .014" rapid exchange wire could not be negotiated and .035" wire was used followed by balloon inflation with the intent to avoid the entanglement of the delivery system in the struts of the stent. The balloon was deflated simultaneous with pull of the delivery system in a controlled manner, freeing the system. Post angiography runs revealed near complete relief of stenosis with normal intracranial circulation. Post procedure the patient had no deficits and was discharged.

LEARNING POINTS OF THE PROCEDURE:

Awareness about possible complications in carotid stenting and knowledge of interventional hardware is essential. Rescue therapy using different maneuvers may be attempted in cases of stuck delivery system. Use of balloon as a bailout technique, after failure of routine maneuvers, may be successful in certain cases.

Corresponding author: Dr Ajay Kumar
Department of Radiodiagnosis & Imaging, PGIMER, Chandigarh
+917087009385
Ajay2509@gmail.com