Retrograde Intervention Guided by Intravascular Ultrasound in a Patient with totally occluded left Subclavian Artery

Seong Hyeop Hyeon, MD

Heart center, Chung-Ang University Hospital, Seoul
Clinical information

• 64 year-old female was admitted to department of endocrinology for adequate glycemic control and evaluation of diabetic complication.
• Past medical history: DM(+), HT(+), dyslipidemia(+)
• Intermittent tingling sensation and coldness of left arm for several years
• Blood pressure: right arm(130/70 mmHg)
  left arm ( 70/40 mmHg)
• The pulsation of left brachial artery and left radial artery could hardly be palpable.
Carotid ultrasonography

Right vertebral artery

Left vertebral artery
Neck CT angiography
A 7F MPA-1 guiding catheter was advanced to aortic arch and it was engaged to left subclavian artery ostium. but the 0.035” Radifocus® guidewire could not pass the occluded lesion.
For back-up support, a 5F Heartrail® catheter was inserted. but the 0.035” Radifocus® guidewire still could not cross the lesion.
Retrograde approach with left radial artery was tried. A 5F JR 4.0 diagnostic catheter was inserted to left subclavian artery through 5F radial sheath.
A 5 mm snare catheter was inserted through right femoral sheath. The 0.035” Radifocus® guidewire pinched by the snare was externalized outside right femoral sheath.
A 8F introducer guide catheter was inserted. Angiography and IVUS were checked.

TCTAP 2014
Reference diameter and lesion length were measured (7.4 x 29mm).
Powerflex® Pro balloon (4.0 x 40mm)
(Cordis Endovascular, Warren, NJ)
Palmaz® Genesis™ balloon expandable stent( 7.0 x 29mm )
(Cordis Corporation, Bridgewater, NJ, USA)
Post-stent IVUS
Case summary

• We reported a case which was successfully treated total occlusion of left subclavian artery by the retrograde wiring and IVUS guiding.

• IVUS can be a useful tool to assess the lesion morphology and determine device size in endovascular intervention of occluded subclavian artery as well as in percutaneous coronary intervention.
Thank you for your attention!