Bilateral Forearm Approach for Subclavian Artery total occlusion intervention under Filter wire protection

Hsiu-Yu Fang, MD
Chiung-Jen Wu, MD

Division of Cardiology,
Kaohsiung Chang Gung Memorial Hospital, Taiwan
Clinical History

- A 76-year-old female
- Risk Factor: Hypertension
- Presented with
  - Frequent dizziness with left arm weakness
  - Right arm soreness (Right arm BP: 106/71 mmHg and Left arm BP: 165/81 mmHg)
- 2D echocardiography:
  - Adequate LV performance
  - LVEF = 73%
Sinus rhythm
Carotid duplex showed right common carotid artery 70% stenosis but Brain MRI showed 50% stenosis over right common carotid artery; Right subclavian artery total occluded
Strategy

- Diagnostic coronary angiography
- Diagnostic carotid angiography
- Carotid artery stenting if needed
- Revascularize and stenting right subclavian artery via bilateral approach
Baseline Coronary Angiogram

Via left brachial artery approach (left radial artery too small)
Carotid Angiogram

Left carotid artery (Lateral View)  Right carotid artery (AP View)
During Carotid Angiography

Right subclavian artery had delayed flow with near total occlusion
Successful puncture Right Brachial artery

Left and Right brachial artery had maximal 70 mmHg pressure gradient
Right Axillary Artery Angiogram

Multiple collaterals to axillary artery
Retrograde Terumo 0.035 wire passed
Contra-lateral injection

Critical stenosis of right ostium subclavian artery
Filter wire protection to RICA
PTA + Stent to Right Subclavian artery

Ultra-Soft 6.0x20mm; Wanda 10x40mm; Express LD Stent 10x25mm
Retrieve of Filter Wire
Final Angiogram

Good final TIMI 3 flow to Right Subclavian artery
Final Pressure Gradient

No more pressure gradient between bilateral arm
Take Home Message

- Subclavian artery total occlusion is one of the leading cause of bilateral forearm blood pressure discrepancy
- Bilateral forearm approach is feasible and safety in subclavian artery intervention
- Filter wire protection in internal carotid artery may protect distal embolization while performing PTA to subclavian artery
- Utilized CTO technique like contra-lateral injection may achieve final success