1140 Pig-head turning into Handsomeness ? Stenting again for SVC syndrome stenting failure

[Brief History]

This 62-year-old man presented to our hospital for progressive facial swelling and shortness of breath for 1 month. CT scan showed superior vena cava (SVC) syndrome with large mediastinal lymph nodes. The vascular surgeon performed the first EVT.

[The First EVT procedure]

During the diagnostic venography, occluded SVC with multiple collateral veins was found. A 0.035” Terumo wire was passed from IVC to right subclavian vein, followed by a balloon dilatation. A 14mm x 8cm Venono stent was placed from right brachiocephalic vein to SVC. However, left brachiocephalic vein was not identified and there was some residual stenosis beyond the distal stent edge to right subclavian vein. The patient got partial improvement after the procedure, but his symptoms relapsed soon just one day after the procedure.

[Salvage EVT procedure]

Ten days after the first EVT, we performed venography and it showed in-stent thrombosis with total occlusion. We retrogradely advanced 0.035” Terumo wire + 4 Fr CXI microcatheter to right axillary vein, and venography revealed the distal occlusion site of right subclavian vein. For left brachiocephalic vein, we could hardly find it retrogradely because the stent just crossed the bifurcation. We then performed antegrade venography and confirmed total occlusion at proximal vein. A 0.018” V-18 wire + 2.6 Fr CXI microcatheter was advanced to from left basilic vein sheathlessly, and a 0.018" 300 cm Treasure 12 wire finally penetrated into SVC stent. Subsequently, wire was externalized (Rendezvous technique). We deployed the SVC filter and placed two Fountain infusion catheter to bilateral brachiocephalic-subclavian vein with urokinase infusion (CDT).

Six days after CDT, venography revealed partial resolution of thrombosis. We deployed two Luminexx 14 x 120 mm over bilateral brachiocephalic vein into SVC with kissing Y stenting technique. We post-dilated kissing balloon with two ev3 EverCross 12 x 40 mm. The venous flow from bilateral brachiocephalic vein was smooth then. We finally remove the SVC filter successfully.

[Clinical Result and Case Implication]

The patient had lung cancer and local SVC compression predispose the risk of thrombogenesis. The first procedural failure was due to a poorly reconstructed venous inflow. The stasis of blood flow was one of element in Virchow’s triad. To rebuild venous inflow, the proximal and distal occlusion sites should both be clearly located and reconstructed. We successfully restored venous inflow by bidirectional approach, Rendezvous technique, catheter-directed thrombolysis, and Y-stenting to cover all the occluded lesions. Patient got much clinical improvement, and received treatment of lung adenocarcinoma.