Endovascular management of Chronic SVC syndrome

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Disclosure

Speaker name:
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I do not have any potential conflict of interest
Clinical presentation

- Swelling of face, neck, both upper limbs of 19 years duration
- Headache, blurring of vision
- On examination – Edema of face, neck, both upper limbs, prominent veins of the chest and back.
- CT angio – chronic occlusion of SVC, both Innominate veins, Right Subclavian vein.
SVC / Subclavian V & Innominate V Angio
Anatomy of the SVC and Central Venous Occlusion delineated—through Rt Axillary v Lt Subclavian V & Rt Femoral V approach
Attempts to cross the Rt Subcalvian V & Innominate V occlusion into SVC

antegrade from Rt axillary V - failed

Attempts to cross the lesion with Straight Terumo GW/ cook curved catheter failed. It ended in dissection towards the proximal Innominate V and SVC.
Attempts to cross the SVC occlusion into Lt Innominate V - successful

SVC & Lt Innominate V lesion
Crossed with Terumo GW From Rt Fem Vein approach

Guide wire exteriorised from Lt Subclavian V by snaring
Lesion dotterred with cook sheath / dilator

True lumen confirmed

PTA performed 16x40 mm Atlas
Established flow from L Innominate Vein to SVC

Repeat attempt to cross the lesion from Right Subclavian vein failed.

small perforation
Attempted for sharp recanalisation with Brockenborough needle

Rt Fem V approach

Initial attempt failed
2nd attempt with BB needle

Used the guide wire in false lumen as the guide for sharp recanalisation LAO view angio facilitated identifying lower end of occlusion for entry with BB needle
BB needle engaged into the occlusion

BB needle manoeuvred through the occlusion

Check angio Through mullin Sheath encouraging

Terumo G Wire passed
Wire position appeared good

Attempts to snare G W failed

Angio confirmed the subintimal position of the Guide wire
Two 0.014 coronary G W
Two 3 mm coronary
Balloons in different Subintimal planes

Both balloons dilated simultaneously in different subintimal planes to break the flaps to facilitate communication between the two subintimal planes
Check angio post dual Balloon PTA shows communication to SVC from Rt subclavian V

Guide wire negotiated from Rt subclavian Vein to SVC

Guide wire snared & Exteriorised from Rt Femoral Vein
0.014 Guide wire was exchanged for 0.035 extra support G W

Successful PTA performed 10 x 40 mm balloon
Post PTA
Flow established from Rt S/C V to SVC

Left Fem V accessed G W across Rt Innom/Subclavian V extreiorised from L Fem V. Preparation for Wall Stent deployment needs 12 F sheath

Additional PTA performed 14 x 40 mm Atlas
Approach to intervention needed 4 accesses

- Bilateral Femoral Vein access
- Left Subclavian Vein access
- Rt Axillary Vein access

*Wall stents delivered through 10/12 F sheaths*

*Needed bilateral Femoral Vein access to Facilitate Wall stent deployment*
Post PTA – Both Central veins to SVC recanalised

2 Wall Stents from both Femoral Veins positioned

Wall Stents deployed
2 wall stents – 18x80 and 22x60

Final result

Stents post dilated
24 hours later

- Edema resolved rapidly
- Headache decreased
- Vision better
1 year follow up

- Asymptomatic
- Clinically SVC syndrome has resolved
- On anticoagulation
  (INR 2.0 – 3.0)

Doppler study – patent
Central veins and SVC
Our Experience

• 58 cases of Central Venous occlusions (CKD on MHD)
• Successful in recanalising 55 cases.
• Primary patency at 1 year – 55%
• Secondary patency – 89%
• Restenosis- 35% at 6 months, 45% at 1 year, 65% at 2 years.
Conclusions

- 18 years CTO of Bilateral Innominate veins, SVC was successfully recanalised with PTA and stent implantation.
- Needed multiple techniques to cross the total occlusion – SVC, Left Innom V occlusion crossed with terumo guide wire. For Right Innominate V and Subclavian V occlusion, sharp recanalisation with Brockenborough needle, CART and simultaneous balloon angioplasty of antegrade and retrograde subintimal planes facilitated crossing the occlusion, subsequent PTA and stent implantation.
- PTA and Stent safe & effective for SVC syndrome management
THANK YOU
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