Midterm results of tunneled catheter placement in haemodialysis patients with central venous stenosis or occlusion

H. Lotfy, A Elemam, W Shaalan,

Prof Dr Hassan Lotfy
Vascular and Endovascular Consultant
Alexandria University - Egypt
Disclosure

Speaker name:
Prof Dr Hassan Lotfy

I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
End stage renal disease (ESRD)

- ESRD patients number is continuously increasing in Egypt.
- Haemodialysis is the main line of treatment for those patients due to lack of adequate number of kidney donors.
• Unfortunately non-tunneled catheter is used extensively for dialysis before constructing a permanent vascular access.

• This is the most common cause of central venous occlusion. This could interfere with any future planning for AVF.

• The highest incidence of occlusion occurs with subclavian catheters (42-50%) followed by internal jugular vein catheters.
• **Catheter-induced trauma**
  to the venous endothelium with secondary inflammatory damage within the vessel wall.

• **Other proposed mechanisms include**
  increased flow and turbulence from the creation of an AV access which initiates inflammatory response and stimulate intimal hyperplasia.
Methods

Recanalization of occluded vein

All patients had CTV to confirm DUS finding.

All cases were operated under local analgesia with sedation if needed

Access

• US guided through a nearby patent vein mainly distal patent part of SCV, patent part of basilic vein, or through a functioning AV access.

• Femoral access (Rendez-vous technique).
• Venogram
• Crossing the lesion till IVC to insure stable access.
• Exchange guide wire for a stiffer one to a few centimeters passing the lesion.
• Balloon dilatation.
• Repeat venogram.
• After ensuring patent central vein, the tunneled catheter is inserted over the wire or through another percutaneous puncture.
The initial diagnostic venogram
Venogram after wire and catheter passage
Balloon dilatation of the innominate vein
Placement of tunneled catheter
Results

• 30 patients were included in the study.
• The mean age was 53.2 (±5.2) (47y-63y).
• 16 patients were males and 14 were females.
• 21 Cases with central venous occlusion, 9 cases with central venous stenosis.
• 21 cases subclavian vein and 9 innominate vein.
• All cases were treated by angioplasty only without stenting.

• Technical success rate was 85% with failure in 15% due to inability to pass the wire. All of them was in group of patients who had occlusion.

• No complication occurred.
• All patients followed up as regard adequacy of dialysis session through the inserted catheter for one year with 100% adequately functioning catheter.
Conclusion

- Dilatation of occluded central veins followed by permanent catheter insertion can be achieved by endovascular method with an acceptable technical and long term success rate.

- This technique could be used as a bailout for patients with no access for dialysis.
Thank you
Midterm results of tunneled catheter placement in haemodialysis patients with central venous stenosis or occlusion

H. Lotfy, A Elemam, W Shaalan,

Prof Dr Hassan Lotfy
Vascular and Endovascular Consultant
Alexandria University - Egypt