Balloon angioplasty with selective stenting strategy in treatment of hemodialysis related central vein occlusive lesions

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Disclosure

Speaker name:

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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
Causes of CVOL in HD

- Central venous catheter
- HD access
- Cardiac pacemaker
Presentation of CVOL

- Ipsilateral limb or face swelling
- Dilated veins in chest
- Prolonged bleeding
- Access failure
Lines of treatment

- Endovascular therapy
- Surgical bypass (morbidity, mortality)
- Ligation of the access
Guidelines

NKF and KDOQI guidelines:

- Endovascular therapy is the preferred treatment for CVOL
- Stents:
  - Recurrent stenosis within 3 months
  - Failed PTA

Endovascular options

- PTA, DEB
- Bare metal stent (SES)
- Cutting balloon
- Covered stent
Stent

Increase technical success and maintain patency. However,

- Migration
- Fracture (costoclavicular region)
- Compression (surrounding bony structure)
- Decrease future options (IJV)
Patients and methods

- Prospective study
- 74 dialysis patients with symptomatic CVOL between March 2014 and November 2015
- Endovascular therapy (PTA +/- stent)
- In Assiut University hospital, Assiut, EGYPT
- Preoperative duplex done for all patients
Access

- Direct fistula access (80%)
- Combined arm and femoral (20%)
- Balloon
  - High pressure
  - Atlas, Bard-USA
  - 10 – 16 mm.
Stent
- 12-18mm SES
- wallstent, Boston.
Technical Success

Failure: 14.9%
Success: 85.1%
Clinical Success

All patients had improved symptoms within 2 weeks
PTA vs Stent

- Stent 27%
- Balloon 73%
<table>
<thead>
<tr>
<th>Site of lesion</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axillary vein</td>
<td>4</td>
<td>5.4</td>
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<tr>
<td>Subclavian vein</td>
<td>27</td>
<td>36.5</td>
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<tr>
<td>Brachiocephalic vein</td>
<td>43</td>
<td>58.1</td>
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<tr>
<td>Superior vena cava</td>
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<td>0</td>
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</table>
Type of lesion

- Stenosis: 60.9%
- Occlusion: 39.1%
No sig difference between PTA & stent.
Secondary Patency

![Graph showing secondary patency over time with PTA and Stent treatments.](image)
Conclusions

- Endo first with selective stent strategy for CVOL.
- Technical failure is common due to inability to cross occlusive lesions.
- Repeated interventions are required.
- Protect your future options.
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