Use of NBCCA for eliminating Endoleak

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Disclosure

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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
Endovascular treatment for EL

• **Type Ia EL**
  - Aortic cuff extension/EXL Palmaz stent
  - Chimney technique
  - PN embolization

• **Type II EL** (sac enlarge >5mm)
  - Embolization of sac, branches
    - Trans arterial
    - Direct sac puncture
    - Trans caval, trans graft
Long-term follow-up of type II EL embolization

A significant number of patients required more than one procedure.

Type II EL treated with **NBCA** required less repeated procedures than with **coils**.

Frederick from
SG explant: 89%
2nd repair: 76%

Sac growth prevention
44%

N-Butyl cyanoacrylate (NBCA) + 1/4 = 20% NBCA

Useful for sac filling
Type II EL embolization

Triple coaxial system enables

- Intrasaccular access of the catheter
- Branch embolization with coils
- Sac embolization with NBCA-Lp
- Repeatable injection of NBCA-Lp

Hongo N et al. JVIR2014; 25: 709-16.
Case 1

Trans arterial approach

Lt. hypogastric artery
Successful cannulation into contralateral lumber a.

Sac filling with NBCA/Lp

Coil embolization of Contralateral Lumber
Case 1

Post embolization
Case 2

Direct puncture of sac under CT guidance
Embolization of branches with coils

Case 2
Intrasac embolization with NBCA
Type Ia EL
Glue injection from top of SG
Type Ia EL disappeared
Type Ia EL after EVAR
Transgraft approach
Transgraft approach
Transgraft approach

EL disappeared
Treatment of Type Ia EL After EVAR Fibrin Glue Sac Embolization

- Type I EL in 42/783 pts (5.4%) after SG placement
- Fibrin glue injection from proximal end
- 41/42 EL resolved
- Sac diameter 59 → 49mm (39M)

### Comparison Between Pre- and Postembolization Intrasac Pressures

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Sac Pressure, mmHg</th>
<th>MPI, %</th>
<th>Sac Pressure, mmHg</th>
<th>MPI, %</th>
<th>Sac Pressure, mmHg</th>
<th>Decrease</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Emboloization</td>
<td></td>
<td>Post-Emboloization</td>
<td></td>
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<tr>
<td>Systolic</td>
<td>119.3±18.6</td>
<td>92.2±5.3</td>
<td>44.7±9.4</td>
<td>34.1±6.2</td>
<td>74.5±12.1*</td>
<td>57.9±4.2*</td>
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</tr>
<tr>
<td>Diastolic</td>
<td>70.3±9.3</td>
<td>79.5±7.6</td>
<td>38.7±5.9</td>
<td>43.2±6.7</td>
<td>31.7±5.7*</td>
<td>27.0±5.1*</td>
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<tr>
<td>Mean</td>
<td>86.6±12.2</td>
<td>87.8±4.4</td>
<td>40.7±6.9</td>
<td>35.6±6.4</td>
<td>46.0±7.5*</td>
<td>51.2±3.2*</td>
<td></td>
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<tr>
<td>Pulse</td>
<td>48.8±10.3</td>
<td>124.1±8.4</td>
<td>6.0±4.0</td>
<td>15.3±9.5</td>
<td>42.8±8.0*</td>
<td>108.5±6.2*</td>
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</tbody>
</table>

Lu et al, JEVT 2010
Conclusion

✓ Use of NBCA enables filling of aneurysm sac and gutter space, eliminating EL.

✓ Various approach routes to aneurysm sac
  
  • Tran-Arterial, Graft, IVC, direct sac puncture

✓ NBCA reduces repeated intervention compared to coils.