Hand AVMs: How I Do It
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Nothing to Disclose

Hand AVMs
- Clinical evident at birth 30%
- Detection before the age of 30 92%
- Thrill and pulsation 53%
  - Pain 45%
  - Skin ulcer 20%
  - Bleeding 9%

Embolic agent: Ethanol
- Permanent embolic agent
- Complete obliteration of primitive mesenchymal lesion of AVMs
  - No recanalization
- Diverse treatment approach
- Best long term outcome with minimum recurrence

Treatment Approach to Hand AVMs
- Direct puncture
- Intra-arterial
- DP + IA

Park HS, J Vasc Surg 2011
After 4 sessions of IA ethanol embolotherapy

F/25 with Pain
Five Sessions of Embolotherapy (IA + DP)

Treatment of Finger AVMs
- Direct puncture in all cases
- Save at least one digital artery
- With or without proximal BP cuff

8cc ethanol injection
F/21 : Pain and Mass

2005-June

2008-Mar

Results of Ethanol Embolotherapy

<table>
<thead>
<tr>
<th></th>
<th>Hand AVM (n=31)</th>
<th>All AVM (n=176)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure</td>
<td>3%</td>
<td>39%</td>
</tr>
<tr>
<td>Improvement</td>
<td>73%</td>
<td>51%</td>
</tr>
<tr>
<td>No Change or Failure</td>
<td>23%</td>
<td>10%</td>
</tr>
</tbody>
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Park HS, J Vasc Surg 2011
Park KB, JVIR 2012

Cxs of Ethanol Embolotherapy

- Hand AVMs
  - Major Cx (13%)
    - Finger amputation with necrosis (6%)
    - Finger tip necrosis fully recovered (3%)
  - Minor Cx (81%)
    - Skin bullae or necrosis (50%)
    - Transient sensory or motor loss (13%)

Park HS, J Vasc Surg 2011
Park KB, JVIR 2012
최을미
F/29 with pain

4cc of ethanol  Final angiography  2 day F/U

3 week F/U  6 week F/U

F/36 with pain, 곽은영

Final Angiogram
Conclusions

- Ethanol embolotherapy of hand AVMs
  - Direct puncture and/or intra-arterial approach were performed
  - Effective (cure + improvement) in more than 75% of the patients
  - Relatively higher major and minor complication rates, compared to AVMs involving other part of the body

Thank You for Attention