Interventional Radiology Unit

Flow Diverting Bare Stents With or Without Coils For Treating Visceral and Renal Artery Aneurysms: Technical Tips and Results

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DISCLOSURE

I have no actual or potential conflict of interest in relation to this presentation

Endovascular is the first line treatment of VA

J Vasc Interv Radiol 2016;

- 665 VA
- 22 studies 2005-2016
- 93.6% tech. sucesso
- 99% visceral preservation
- 3.7% major complication
- 4% reintervention rate
- avoid aneurysm rupture Coils, LEA (glue, Onix)
- preserve distal flow save collaterals
- More sophisticated devices

DEFEND GRAFTING what is the evidence ? L.o.E II/III

There are many reports including, among the others devices, the use of endograft in VAA. It is difficult to extrapolate the results solely regarding the patients treated with endografts

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Mean FU</th>
<th>Aneurysm Migration</th>
<th>Stent occlusion</th>
<th>Device failure</th>
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</thead>
<tbody>
<tr>
<td>Rossi CVIR</td>
<td>2008</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Kruntzel JVIR</td>
<td>2013</td>
<td>19</td>
<td>2/11</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Cappucci, Rossi Cir Esp</td>
<td>2017</td>
<td>15</td>
<td>11</td>
<td>6/64</td>
<td>0</td>
</tr>
</tbody>
</table>

ENDOGRAFTING yes or no

- Turbulent flow into aneurysm
- Laminar flow (with MFM?)

<table>
<thead>
<tr>
<th>Device Type</th>
<th>Stent Failure</th>
<th>Large Vessel Disease</th>
<th>Collateral Preservation</th>
<th>Evidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endograft</td>
<td>YES</td>
<td>++</td>
<td>NO</td>
<td>+++-</td>
</tr>
<tr>
<td>MFM Stent</td>
<td>YES</td>
<td>++</td>
<td>YES (?)</td>
<td>+--</td>
</tr>
</tbody>
</table>
MFM stents 3D interconnected wires

- Cardiatis
- Pipeline (neuro intervention)

- Not VA "exclusion"
- Flow manipulation
- Physiologic rather than Anatomic therapy
- Reduce peak wall stress
- Enhance the side branches flow

MFM STENTS ("Cardiatis")
L.o.E II/III
Approved for extracranial peripheral use in European Countries since 2009

- Aneurysm thrombosis: near 90%
- Aneurysm shrinkage: ?
- Branch vessel occlusion: from zero (6 month) 2% (1 year) 40% (2 years)
- Stent occlusion: 9% (6 month) 11% (1 year) 40% (2 years)

64 yo Intermittent gastroduodenal bleeding Fusiform aneurysm involving PHA and CHA GDA originating from the sac
**Ideal Device**

- Aneurysm exclusion/thrombosis
- Soft, pushable
- Preserve distal flow and collaterals

**Detachable coils?**
- True aneurysms
- Sacciform aneurysms
- Small necks
- Repositionable
- Detach coils only once completely inside
- Fill up the sac (coils packing)
- Available many softeness degree length filling capability

**What is the meaning of using coils + MFM Stent?**

- Prevents coils protrusion or migration (remodeling)
- Collaterals embolization
- Collaterals embolization and Trigger sac thrombosis

**The aim of MFM stents is preserving side branches flow?**

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**Conclusions**

- Endovascular approach offers undoubtable advantages and future technological developments may significantly improve the long term outcomes
- MFM is an unconventional stent.
- Whether it works in all patients with VAAs or not is not reliably predictable
- The indications for its use should be further elucidated
- Best indication is when side branches preservation is desirable in pts unsuitable for any other approach