Classification and endovascular treatment of celiac trunk aneurysms

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Disclosure

Speaker name:
Daniele Mascia

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)

X I do not have any potential conflict of interest
Celiac trunk aneurysms

10-20% risk of rupture
0.5-5% mortality in surgical elective cases

Chiesa R. et al., Ann Vasc Surg 2005
Shanley et al., 1996
Huang et al., EJVES 2007
Endovascular limitations

1 cm proximal neck
Endovascular limitations

NO PROXIMAL NECK

MAL post-dilatation

Coexisting aortic dilatation
“Treatment-oriented” classification

Based on distal landing zone

Type I

Type II

Type III

Type IV

Right HA

Left HA

GDA

Splenic
Type II #

- Amplatzer Vascular Plug
- Proper HA
- Splenic A
- Gastroduodenal A.
Type II #

Splenic A.

Amplatzer Vascular Plug

Proper HA

Gastroduodenal A.
Type III #

- Splenic A.
- Amplatzer Vascular Plug
- Gastroduodenal A.
Type IV #

Right HA

Left HA

Proper HA
Type IV #
San Raffaele experience ’98-‘16
Visceral artery aneurysm (N=124)

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT- aneurysm (N=10)</td>
<td>(8%)</td>
</tr>
<tr>
<td>Hepatic</td>
<td>Males 10 (100)</td>
</tr>
<tr>
<td>Age</td>
<td>62 (+/-9) y.o.</td>
</tr>
<tr>
<td>SMA</td>
<td>10 (100)</td>
</tr>
<tr>
<td>Elective treatment</td>
<td>10 (100)</td>
</tr>
<tr>
<td>Mean diameter</td>
<td>2.8 (r. 2-5.2) cm</td>
</tr>
<tr>
<td>Others</td>
<td>42%</td>
</tr>
<tr>
<td>Splenic</td>
<td>21% (100)</td>
</tr>
</tbody>
</table>
## Perioperative results

<table>
<thead>
<tr>
<th></th>
<th>N = 10</th>
<th>Open repair N = 3</th>
<th>Endov. Treat. N = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mortality</strong></td>
<td></td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Morbidity</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1 bleeding / pancreatitis</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>
Discussion

1. Fate of the spleen
2. Stent choice
Fate of the spleen

- Left Gastroepiploic artery
- Short gastric arteries
Ballon-exp.: more precision in the proximal landing zone

Balloon-exp. may be flared to match patient’s anatomy
Mismatch between distal and proximal landing zones

Balloon Vs Self-exp. stents

- 4-5 mm
- 7-8 mm
- 6 x 100 mm
- 9 x 58 mm
2 Balloon Vs Self-exp. stents

Self-exp.: more flexibility in the distal landing zone

"Telescope technique"
Conclusion

1. Celiac trunk aneurysms are rare

2. No morphologic classifications are still reported

3. Stent-graft exclusion, if anatomically feasible, provides excellent outcomes
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