Iliocaval skip stenting technique for chronic venous obstruction

Houman Jalaie
European Venous Centre Aachen-Maastricht
University Hospital Aachen
University Hospital Maastricht

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Disclosure:

I have the following potential conflicts of interest to report:

- Receipt of grants/research support
  Medtronic, BD BARD, Cook, Boston Scientific, Bentley, Optimed, Plus Medica, Walk Vascular

- Receipt of honoraria and travel support
  Medtronic, BD BARD, Cook, Boston Scientific, Bentley, Optimed, Walk Vascular
Techniques of reconstruction of confluence:

- We assume that a 24 mm stent diameter for IVC and a 16 mm stent diameter for CIV would be appropriate.
- Relationships between diameters of caval and iliac stents are accurate.
Type of reconstruction of confluence:

- Fenestration
- Apposition
Type of reconstruction of confluence:

- Double barrel technique

Diameter of cava:
- 24mm, 452mm$^2$

Iliac stents:
- 12 mm, 113 mm$^2$
- $2 \times 113 = 226$ mm$^2$
Type of reconstruction of confluence:

- Confluence stenting with self-expandable stents
Type of reconstruction of confluence:

- Confluence stenting with balloon-expandable stents

Cava stent:
24mm, 452mm²

Iliac stents:
12mm, 113 mm²
2 x 113 = 226 mm²
Type of reconstruction of confluence:

- skip stenting technique
Important advantages of skip stenting technique:

- Geometry of stents (better aspect ratio and outflow area)
- Contact of stent with endothelium of cava (better and faster endothelialization?)
- No dead space (less stent thrombosis??)
- Cost (number of implanted stents are less)
<table>
<thead>
<tr>
<th>Literature</th>
<th>Bilateral Läsion (n, %)</th>
<th>Technik</th>
<th>Follow up</th>
<th>PP</th>
<th>aPP</th>
<th>SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raju S., 2009 (19446993)</td>
<td>(14/ 10,6%)</td>
<td>Fenestration</td>
<td>4 J</td>
<td>31% (Total)</td>
<td>57% (Total)</td>
<td>66% (Total)</td>
</tr>
<tr>
<td>De Graaf. 2015 (PMC4565871)</td>
<td>(40, 100%)</td>
<td>Confluence stenting with balloon-expandable stents</td>
<td>1 J</td>
<td>85%</td>
<td>85%</td>
<td>95%</td>
</tr>
<tr>
<td>Kölbl, 2009 (19702343)</td>
<td>(14, 21%)</td>
<td>Double Barrel</td>
<td>5 J</td>
<td>70% (Total)</td>
<td>73% (Total)</td>
<td>80% (Total)</td>
</tr>
<tr>
<td>Chick, 2017 (28527883)</td>
<td>(140, 100%)</td>
<td>Double Barrel</td>
<td>2 J</td>
<td>87%</td>
<td>90%</td>
<td>94%</td>
</tr>
<tr>
<td>Neglen, 2007 (20385465)</td>
<td>(112, 13%)</td>
<td>Double Barrel</td>
<td>6 J</td>
<td>67% (Total)</td>
<td>89% (Total)</td>
<td>93% (Total)</td>
</tr>
<tr>
<td><strong>Our results, 2020</strong></td>
<td>(48, 100%)</td>
<td>Skip stenting technique</td>
<td>2,5 J</td>
<td>74%</td>
<td>83%</td>
<td>97%</td>
</tr>
</tbody>
</table>
Comparison of these techniques is neither realizable nor useful!
Conclusion

• Iliocaval Skip Stent Reconstruction Technique is a simple strategy that appears to be safe and equally as efficacious as previously described techniques

• This technique is easy, fast and cost effective

• Our findings suggest that leaving a skipped lesion at the level of ilio-caval confluence has no negative effect on stent patency

• A comparison between the available techniques is not feasible as there are many other factors predicting outcome
Thank you

Mohammad Barbati, Alexander Gombert, Irwin M. Toonder, Karina Schleimer, Drosos Kotelis, Rick de Graaf, Suat Doganci, Mahmood Razavi
Houman Jalaie

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