The advent of endovascular therapy for occlusive lesions of the supra-aortic trunks has largely overshadowed traditional surgical approaches (endarterectomy, direct transthoracic repair) to this complex group of patients. Nevertheless, cervical reconstruction remains a safe and typically durable treatment. The majority of cervical reconstructions are carotid-subclavian bypasses or transposition procedures, given the high relative frequency of lesions affecting the left subclavian artery. Other reconstructions such as carotid-carotid and axillary-axillary bypasses are much less common.

In a large series of cervical reconstructions, Berguer and colleagues reported on 182 consecutive procedures in 173 patients performed over a 16-year period. The majority were performed for atherosclerotic disease. During the same period of time, 100 transthoracic repairs were performed. Of the study group, more than one-fourth (27%) had multiple lesions of the supra-aortic trunks. The majority of the operations were subclavian-to-carotid bypasses; only 4 of 182 (2%) were carotid-carotid grafts. Two of the four were placed via a retropharyngeal tunnel, the other two via a pretracheal route.

Indications for carotid-carotid bypass are as follows:

- Occlusive lesions of the common carotid artery or brachiocephalic trunk (innominate artery) not amenable to direct reconstruction or endovascular therapy. In patients with ostial left common carotid lesions, carotid-carotid bypass is typically reserved for those in whom the left subclavian is not suitable as a donor vessel. This indication is further divided into symptomatic (transient ischemic attack, stroke, vertebral-basilar ischemia)—> 75% diameter reduction or ulcerated lesion—and asymptomatic—preocclusive lesions.

- Revascularization of the left common carotid artery to provide a “landing zone” for endovascular repair of aneurysms involving the aortic arch/descending thoracic aorta.

- Preprocedural imaging involves contrast, computed tomographic, and magnetic resonance angiography.

Technical considerations include the following:

- Choice of conduit: polytetrafluoroethylene, Dacron, autologous vein, transposition
- Tunnel:
  - Retropharyngeal: short bypass, cosmetically more acceptable, does not preclude subsequent sternotomy, bypass placed in the space between the pharynx and the pre-vertebral lamina.
  - Subcutaneous/pretracheal

Results

For results of contemporary series, see Table 1.1–5

Table 1. Results of Contemporary Series

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>Stroke/death</th>
<th>Patency</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abou-Zaazam et al, 1999</td>
<td>11 (of 60 cervical)</td>
<td>5%/0</td>
<td>84% primary, 5 yr assisted primary</td>
<td></td>
</tr>
<tr>
<td>Ozsvath et al, 2003</td>
<td>24</td>
<td>1 (4%)/0</td>
<td>88% primary, 3 yr (mean)</td>
<td></td>
</tr>
<tr>
<td>Modarai et al, 2004</td>
<td>13 (of 35 cervical)</td>
<td>0/0</td>
<td>97% secondary 5 yr</td>
<td></td>
</tr>
<tr>
<td>Berguer et al, 1999</td>
<td>4</td>
<td>7 (3.8%)/1 (0.5%)</td>
<td>91%, 82% 5 yr, 10 yr</td>
<td></td>
</tr>
</tbody>
</table>

References


XXX.3.1