Surgical Management of Proximal Venous Obstruction

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Surgical Management of Proximal Venous Obstruction

Open surgery
Endovascular Procedures
Hybrid Procedures
Open Surgical, Endovascular and Hybrid Venous Reconstructions
Mayo Clinic: 2000-2009
Palma Procedure
Palma Procedure
Palma Procedure
Cumulative Patency of 25 Palma Grafts

Femoral crossover bypass (Prosthetic “Palma”)
Femoro-caval bypass
Iliocaval bypass
At 3 years (patent at 13 years)
At 4.5 years
At 3 years (patent at 9 years)
Hybrid Procedure for Extensive Venous Thrombosis
# Early Results of 64 Reconstructions

## Mortality
- Pulmonary embolism: 0
- Deep venous thrombosis: 0

## Early Graft Thrombosis
- 13 cases (20%)
  - Surgical revision: 10
  - Endovenous recanalization: 1

## Patency at Discharge
- 62/64 (95.6%)

## Wound Infection
- 4 cases (6%)
  - Deep: 2 (3%)
  - Superficial: 2 (3%)

## Wound Hematoma
- 2 cases (3%)

## Other
- 2 cases (3%)
Cumulative Patency of 64 Venous Reconstructions

- **Primary patency**: 41%
- **Primary assisted patency**: 47%
- **Secondary patency**: 53%

**Number at risk**:
- 64
- 32
- 24
- 19
- 17
- 15
- 12
- 11
- 10
- 9
- 5

**Time (months)**:
- 0
- 12
- 24
- 36
- 48
- 60
- 72
- 84
- 96
- 108
- 120
Cumulative Patency of 12 Hybrid Reconstructions

- **Primary patency**: 8%
- **Secondary patency**: 30%
- **74%** at 24 months

Time (months):
- 0
- 3
- 6
- 9
- 12
- 15
- 18
- 21
- 24

Number at risk:
- 12
- 9
- 7
- 4
- 3
- 3
- 3
- 3
- 3

Cumulative patency of 12 hybrid reconstructions.
## Late Results

<table>
<thead>
<tr>
<th>Revision for stenosis or occlusion</th>
<th>15</th>
<th>23%</th>
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<tbody>
<tr>
<td>Open</td>
<td>11</td>
<td></td>
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<tr>
<td>Endovenous</td>
<td>4</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Fistula takedown or banding</th>
<th>14</th>
<th>22%</th>
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<tr>
<th>Ulcer healing</th>
<th>10</th>
<th>83%</th>
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<th>Ulcer recurrence</th>
<th>5</th>
<th>50%</th>
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| Relief of swelling (N=33)        | 20 | 60% |
Conclusions

• In surgically fit patients who are not candidates or who fail endovascular repair, open venous reconstructions should be considered.

• Palma vein bypass and short femoro-iliac or ilio-caval PTFE bypasses have excellent outcomes.

• Hybrid reconstructions should be considered as a last resort.
Thank you!