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Conduits for Open In-line IVC Reconstructions

- Autologous grafts
  - Saphenous vein
  - Femoral vein
  - Internal jugular vein
  - Left renal vein
  - Panel graft
  - Spiral vein graft
- PTFE
- Bovine pericardial patch
- Cryopreserved graft

Problems

- Low pressure (external compression)
- Slow flow (due to extensive collaterals in post-thrombotic syndrome)
- Thrombophilia (frequent)
- No ideal graft material

Spiral Vein Graft
Bilateral Iliac vein + IVC obstruction
Femoro-caval PTFE bypass

Adjuncts
- Arterio-venous fistula
- Anticoagulation/antiplatelet treatment
- Intermittent compression pump
- Elastic compression
- Postoperative surveillance

At 3 years
(patent at 13 years)
At 4.5 years
At 3 years
(patent at 9 years)
Factors affecting outcome of open and hybrid reconstructions for nonmalignant obstruction of iliofemoral veins and inferior vena cava

- 27 patients
- 1 early death
- 2 late occlusions
- Follow-up: 2.8 yr (2.7 m – 6.3 y)

Outcomes of 162 patients treated with segmental inferior vena cava resection and graft replacement for malignant disease

- Primary Leiomyosarcoma of IVC

Cumulative primary graft patency at 5 years: 92%

J Vasc Surg 2014;59:36S

External Support PTFE Patch for IVC Reconstruction

Tumor resection + IVC & renal vein replacement with PTFE Graft
Conduit Choices for in-line IVC or Iliocaval Reconstructions

- Externally supported ePTFE (graft or patch)
- Spiral vein graft
- Femoral vein
- Bovine pericardium
- Cryopreserved vein graft

The Future of Large Vein Reconstruction

- Drug eluting, externally supported grafts to decrease thrombogenicity

The Future of Large Vein Reconstruction

- Drug eluting, externally supported grafts to decrease thrombogenicity
- Hybrid reconstructions with autologous, bovine or cryopreserved grafts with internal stent support to prevent external compression of the graft

THANK YOU!