IS THERE STILL A ROLE FOR HYBRID PROCEDURES IN THE ENDO ERA?: WHY AND WHAT CONDITIONS AND VASCULAR BEDS

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DISCLOSURES

NOTHING TO DECLARE.

HYBRID SURGERY

- It is a procedure that combines a conventional surgical part (including a skin incision) with an interventional part, using some sort of catheter-based procedure guided by fluoroscopy (or other, e.g. CT or MRI) imaging in a hybrid OR without interruption.

HYBRID REVASCULARIZATION

- Aortoiliac Occlusive Disease.
- Femoropopliteal disease in:
  - Iliac vessels and femoropopliteal segment
  - Femoropopliteal segment
  - Infrapopliteal disease
- Acute Arterial Thrombosis / Bypass occlusion
  - Thrombectomy + PTA

HYBRID REVASCULARIZATION

- Technical issues.
- Economic issues.
- Unavailability of newest materials and medical procedures.

THIS IS A REALITY IN LATIN AMERICA!!

AORTO ILIAC

- New bifurcation:
  - CERAB: X
  - STENT GRAFTS: X
  - AHERECTOMY: X
AORTOILIAC SEGMENT
- PTA + ILIAC STENTING + FEMORAL-FEMORAL CROSS-OVER BYPASS

AORTOILIAC SEGMENT
- ILIAC STENTING + FEM-FEM CROSS-OVER BYPASS

EVAR

ILIAC SEGMENT

ILIAC AND FEMOROPOPLITEAL LESIONS
- PTA ILIAC ARTERY + FEMORAL-DISTAL BYPASS
- PTA ILIAC ARTERY + FEMORAL ENDARTERECTOMY
- FEMORO-POPLITEAL BYPASS + PTA INFRAPOPLITEAL VESSELS
- FEMORAL ENDARTERECTOMY + PTA SUPERFICIAL FEMORAL OR POPLITEAL ARTERY
ILIAC AND FEMOROPOPLITEAL LESIONS

- Limited Access to:
  - Drug eluting stents.
  - Drug eluting balloons.
  - Atherectomy devices.

ILIAC ARTERY STENTING + FEMORAL DISTAL BYPASS

PTA Iliac Vessel + Femoral Endarterectomy

FEMORO-POPLITEAL BYPASS + PTA INFRAPOPLITEAL VESSELS
ACUTE ARTERIAL THROMBOSIS
THROMBECTOMY + PTA

THROMBECTOMY + PTA OF BYPASS ANASTOMOSIS

FOLLOW-UP OF THROMBECTOMY + PTA OF BYPASS ANASTOMOSIS

<table>
<thead>
<tr>
<th>HYBRID PROCEDURE</th>
<th>N(^{PATIENTS})</th>
<th>TECHNICAL SUCCESS</th>
<th>VIABILITY OF LOWER LIMB</th>
<th>SECONDARY PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iliac Stenting + Fem Pop Cross-Over Bypass</td>
<td>12</td>
<td>100%</td>
<td>8</td>
<td>1 Mortality: 1</td>
</tr>
<tr>
<td>Iliac Stenting + Fem Pop Bypass</td>
<td>15</td>
<td>92%</td>
<td>13</td>
<td>2 Mortality: 1</td>
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<tr>
<td>Iliac Stenting + Femoral Endarterectomy</td>
<td>7</td>
<td>100%</td>
<td>5</td>
<td>1</td>
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<tr>
<td>Fem Pop Bypass + ATP Distal Vessels</td>
<td>7</td>
<td>84%</td>
<td>5</td>
<td>2 Mortality: 1</td>
</tr>
<tr>
<td>Thrombectomy + ATP (Acute arterial thrombosis)</td>
<td>9</td>
<td>100%</td>
<td>4</td>
<td>4</td>
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These procedures should be offered for all patients with critical limb ischemia (Fontaine III and IV), however some procedures have high failure and restenosis rate and this issue must be considered.

CONCLUSIONS

These procedures are complex and require an experienced team of vascular surgeons.

There are clear indications for hybrid surgery but many of these surgeries are also performed for lack of resources to implement new endovascular devices and unavailability of certain procedures, making it very common to the hybrid surgery in Latin America.