Sutured mediated closure

Technique for closing large hole cases

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Disclosure

Speaker name:
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I have the following potential conflicts of interest to report:

- Consulting, Abbott, Bard, Be-Medical, Biotronic, Boston scientific, Medtronic
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

- I do not have any potential conflict of interest
8 Tips & Tricks in 8 minutes
Using proglide for Percutaneous EVAR
Tips & Tricks to improve your results

1. Be aware of the learning curve
2. Inform your patient!!!
3. Study preop ct scan carefully for access sites
4. Exclude the right patient: heavily calcified arteries
5. Use ultrasound !!! (if possible)
6. Understand the device completely
7. Do technique very meticulous
8. Have a bailout strategy
1- Be aware of a learning curve:

- Do not get frustrated in the beginning
- Start with easy cases then improve!!
- After the learning curve your success >95%

Tips and tricks to improve your results:

2- Inform your patients before the procedure about:

Cost of the device and Potential side effects!

Hematoma, retroperitoneal bleeding, pseudoaneurysm, AV-fistula, vessel damage/thrombosis, Infection, Nerve entrapment

If you read the patients experience at www.Angioplasty.Org. the biggest complain is not being informed!!!
Tips & Tricks to improve your results

3 – Study preoperative ct-scan very carefully concerning the CFA:
- exclude heavily calcified arteries
- find the right spot in moderate Ca Art
use anatomical landmarks

Very calcified at the typical puncture place in the mid CFA
Tips & Tricks to improve your results

3 - Find the right spot at the CFA

no calcification little higher at the upper level of femoral collum
Tips & Tricks to improve your results

4 - What about exclusions?

• PREVIOUS GROIN SURGERY/SCARRING? (2 Studies)
  1 NO CORRELATION WITH FAILURE; 1 SHOWED a CORRELATION

• OBESITY? (6 Studies)
  4 FOUND A CORRELATION WITH FAILURE (1 SIGNIFICANT);
  2 FOUND NO CORRELATION

• FEMORAL ARTERY CALCIFICATION !!!! (1 Study)
  SHOWED A CORRELATION (OR 74.5, p<0.001)

Do not start with these patients but they (cat 1 & 2) can be the ones that benefit most after your learning curve !!!

Source: Ramon Varcoe Sydney
Presentation Linc Asia pacific
Tips & Tricks to improve your results

5 – Use if possible Duplex ultrasound find the best puncture place in the CFA
   - non diseased area
   - with at least 5 mm diameter
6 – Understand your device completely

- Get experienced with using the device in 6 Fr
- Know exactly how it works
- Check every step do not proceed without the right feedback
- Then do the large vessel closure with preclosing technique
Tips & Tricks to improve your results

6-Understand your device completely!!

• if you do not have pulsatile blood from your marker lumen: do not deploy! Go back out, refill the lumen and reinsert

• after deployment of the foot, adapt angle >45°

• Check the pulsatile blood flow has stopped

• Make the stitch wet before closing

• Close the stitch in the same direction as your needle puncture direction
Tips & Tricks to improve your results

6- Understand your device completely!!

° Keep slight traction during the procedure
° Launch the needles
° Possible Challenges

two needles without suture = anterior cuff miss
two needles with short white suture = posterior cuff miss/suture break

° Solution: Replace guidewire and use a new device and turn Proglide in a slightly different position
Tips & Tricks to improve your results

7- Do the technique meticulous

- above 6 F start with “prechase technique”
- single wall punctation
- guide wire in
- if there is resistance follow device on fluoro
- guidewire out at skin level
- first proglide in rotation 10 o´clock angle of and > 45° to the skin surface
- locate vessel wall twice if there is doubt: go in and out before opening foot
Tips & Tricks to improve your results

7 – Do the technique meticulous
   - push slowly to transport needles
     give them time to adapt to tissue
   - put the stitch on a small clamp
   - use the floppy wire to insert 2nd proglide
   - second proglide in other direction 2 o´clock
   - exchange for stiff wire over catheter before inserting a big sheath!
Tips & Tricks to improve your results

8 - Have a bailout strategy!

BE PREPARED
- Perform in a surgically equipped room
  with adequate lightning

BE RESOURCED
- Have surgical equipment (clamps, sutures, endarterectomy instruments) available

BE SAFE
- Leave a non stiff guidewire in place
- If fails try another Proglide
- If this fails reinsert a sheath to achieve hemostasis
- Perform cutdown/femoral artery repair

Source: Ramon Varcoe Sydney Presentation Linc Asia pacific
Proglide

A device you would like to have invented yourself !!!
PubMed: RCT, independent factors for failure or success

- Anterior Femoral artery calcification > 50% is major risk factor
  J Vasc Surg 2013 Nov
- Severe fibrosis of the access vessel
  J Endovasc Ther 2009; 16
- Learning curve!!
  J Endovasc Ther 2009; 16
  Eur J Vasc Endovasc Surg 2010
  J Vasc Surg 2013 Nov,
  PLoS One 2015 Apr 22
- Use of ultrasound by puncture
  - Cardiovasc Intervent Radiol 2013 Jun;36(3)
- Avoid puncture above circumflex arteries (ext hypogastric)
- Age and Femal gender

Table 1. Early and late pe-EVAR results.

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th>Femoral access sites</th>
<th>Mean sheath size used (Fr)</th>
<th>Overall pe-EVAR success rate(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st period (1999–2008)</td>
<td>917</td>
<td>1450</td>
<td>17.7</td>
<td>88.7</td>
</tr>
<tr>
<td>2nd period (2008–2010)</td>
<td>884</td>
<td>1509</td>
<td>18.8</td>
<td>95.4</td>
</tr>
<tr>
<td>Total</td>
<td>1801</td>
<td>2959</td>
<td>18.3</td>
<td>92.4 (weighted mean)</td>
</tr>
</tbody>
</table>

\(^a\) Reported on pre-close technique femoral access entry site basis.
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