Open Arteriotomy to Manually Deploy EVAR Stent Graft As a Solution To Avoid Graft Explantation After the Delivery System Sheath Is Completely Disrupted During Deployment

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Disclosure

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I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☑️ I do not have any potential conflict of interest
Patient Data

- Female 74 year old
- Abdominal pain with aneurysm tenderness

Underlying disease
- Hypertension
- Chronic kidney disease stage 3
- Emphysematous lung
- Liver mass (during investigation)
Sizing
Operative planning

• Operate under spinal anesthesia
• Percutaneous puncture both CFA
• Coil embolization Rt IIA
• Mainbody stent graft : access via Lt CFA ESBF 23-14-103
• Ipsilateral limb stent graft : 16-28-93
• Contralateral limb stent graft : 16-10-156
Troubleshooting

• Screw gear handle disassembly to manually retract graft cover
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The Next Options?

- Deploy AUI Lt leg + femoral-femoral bypass

- Open exploration to exclude the Rt CIA/EIA + Femoro-femoral bypass

- Total graft explantation and open reconstruction
The Next Options?
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• Open exploration to perform arteriotomy at Rt EIA and try to grasp the remaining graft coverage sheath
Operative Steps

• Convert to general anesthesia
• Right retroperitoneal approach
• Proximal & distal control of Rt EIA
• Open arteriotomy at Rt EIA until stent graft coverage clearly visible
• Manually pull back the cover until the stent graft completely deployed
Operative Steps

• Patch angioplasty at the arteriotomy site
Operative Steps

• Angiogram before compliance balloon was inflated

• Operative time 5 hr
• Total blood loss 300 ml
Post Operative Phase

- Transfer to ICU for post operative monitoring
- Discharge with DPA pulse 2+ at post operative day 3
In conclusion

• Complications can occur even in normal anatomy
• Surgeons should understand the instrument before using and be resourceful for resolutions of immediate problems
• There are multiple solutions to choose when dealing with sudden intraoperative problems, the decision should be based on thoughtful consideration in order to achieve the best possible result for the patient