The role of open surgery as both an adjunct and bailout for failed F/BEVAR procedures for complex AAAs: How to choose between endo and open repairs as the primary procedure

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Disclosures

Cook:
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Speaker's fees, Advisory board

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Abbott:
Advisory board

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Clinical

- Preserved cardiac, pulmonary and renal function
- Age > 80
- Severe COPD
- Congestive heart failure
- Stage IV or V kidney disease
- Connective tissue disorders

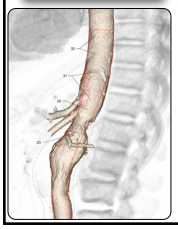
Low risk → High risk

Anatomical

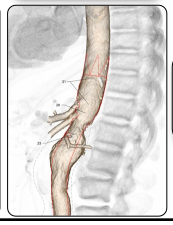
- Pararenal
- Type IV TAAAs
- Good access and targets
- Types I-III TAAAs
- Dissections
- 'Shaggy' aortas
- Poor spine collaterals
- Prior endo repair
- Target artery disease
- Difficult access

Extent of coverage and complexity

Branches



Fenestrations



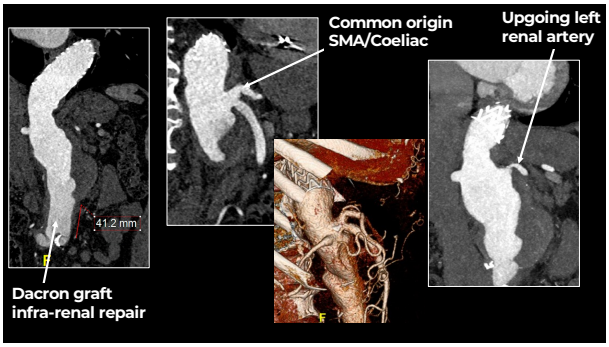
Open repair:
Inter-renal clamp

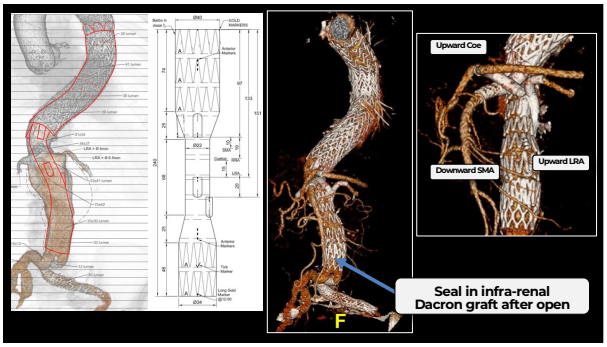
Leveraging adjunctive open surgery

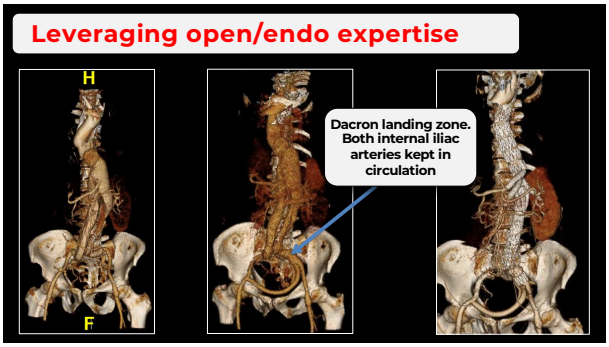
- Landing zone preparation
- Iliofemoral access
- Target vessel preservation
- Intra-operative bailout
- Sac management

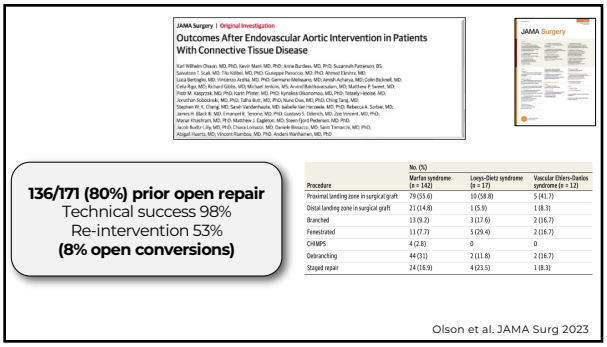
Physiological reserve

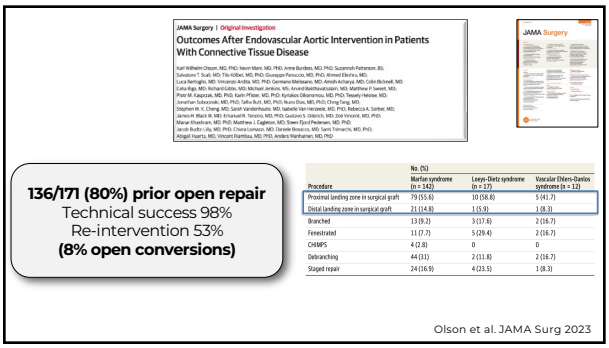
Institutional expertise


Common origin
SMA/Coeliac
Upgoing left
renal artery
41.2 mm
Dacron graft
infra-renal repair


Upward Coe
Downward SMA
Upward LRA
Seal in infra-renal
Dacron graft after open


Leveraging open/endo expertise
Dacron landing zone.
Both internal iliac
arteries kept in
circulation


Outcomes After Endovascular Aortic Intervention in Patients With Connective Tissue Disease
136/171 (80%) prior open repair
Technical success 98%
Re-intervention 53%
(8% open conversions)
Olson et al. JAMA Surg 2023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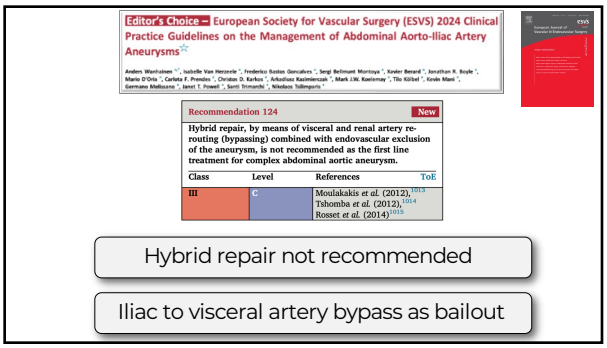
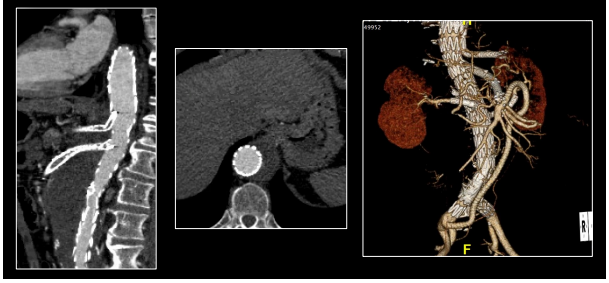
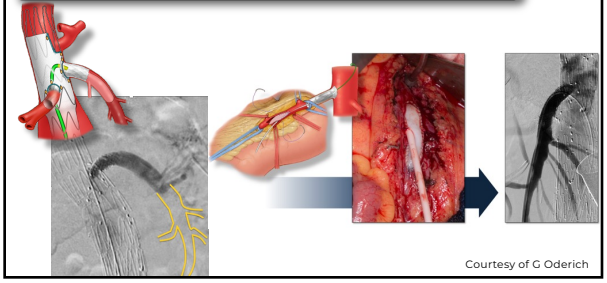

Editor's Choice – European Society for Vascular Surgery (ESVS) 2024 Clinical Practice Guidelines on the Management of Abdominal Aorto-Iliac Artery Aneurysms
Recommendation 124
New
Hybrid repair, by means of visceral and renal artery re-routing (bypassing) combined with endovascular exclusion of the aneurysm, is not recommended as the first line treatment for complex abdominal aortic aneurysm.
Class
Level
References
ToE
III
C
Moulakakis et al. (2012),
Tshomba et al. (2012),
Rosset et al. (2014)
Hybrid repair not recommended
Iliac to visceral artery bypass as bailout

Open bypass occluded SMA branch

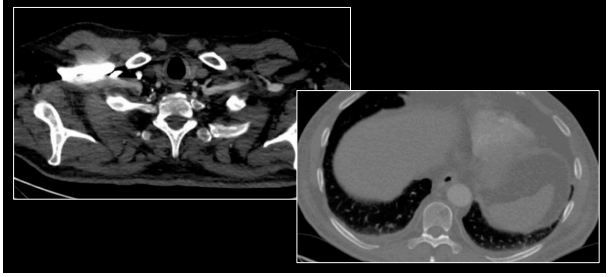


Intra-operative bailout

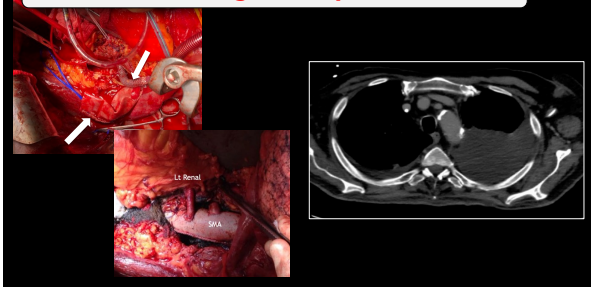


Courtesy of G Oderich

Parallel grafting for mycotic blowout

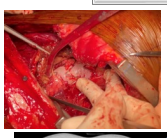


Infected stent graft explant

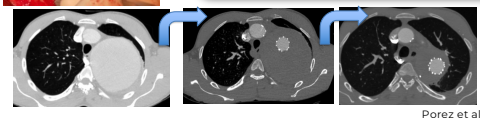


Open aneurysmorraphy following branched and fenestrated endovascular repair of complex thoracic aneurysms

Florent Porez, MD,[a] Dominique Fabre, PhD,[b] Blandine Maurel, PhD,[b] Antoine Gaudin, MD,[a] Alessandro Costanzo, MD,[a] Mark R. Tyrrell, PhD,[c] Thomas Le Houérou, MD,[a] and Stéphan Haulon, MD, PhD,[a] *Le Plessis-Robinson and Nantes, France; and London, United Kingdom*

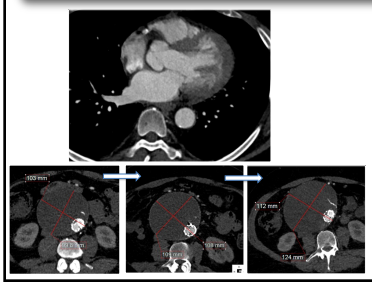


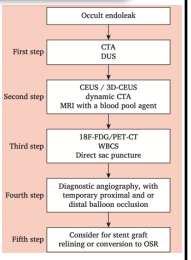
Large aneurysms (>8cm) and progressive aortic sac dilatation after TEVAR or F/BEVAR



Porez et al. J Vasc Surg 2024

Persistent sac growth





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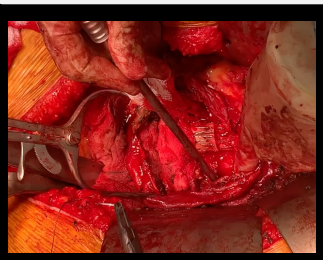
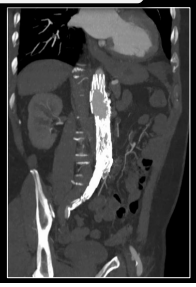
Sac exploration





Summary and conclusions

- Unbiased approach to both endovascular and open options
- Multi-disciplinary teams
- Open surgery remains an important adjunct
- Toward a precision medicine approach:
  Anatomy, physiology, longevity