Emergency Surgical Complication of Hemodialysis Access

“Advance meeting in dialysis access 2019”
One-day in Vascular Disease
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Hemodialysis access complication

Central venous catheter

• Arterial puncture
• Infection
Hemodialysis access complication

Permanent access

- Thrombosis
- Infection
- Ischemic steal syndrome
- Aneurysm
- Venous hypertension
- Prolong bleeding
- Heart failure
Emergency surgical complication
Arterial puncture of hemodialysis catheter

How to management

• Reassure

• Don’t remove catheter from punctured site
  – Temporary catheter – diameter of 11-12 Fr
  – Permanent catheter – diameter of 14.5-15.5 Fr

• Consult surgeon/vascular surgeon
How to repair??

• Open repair
  – Proximal and distal control ➔ direct repair

• Endovascular repair
  – Endovascular closure device
  – Stent graft
Arterial puncture of catheter for HD corrected with open repair
Arterial puncture of catheter for HD corrected with endovascular technique
Thrombosed AVF/AVG

- **AVF thrombosis**
  - Early thrombosis can be corrected with Thrombectomy and revised venous outflow (Open vs Balloon angioplasty)

- **AVBG thrombosis**
  - Mostly due to venous outflow occlusion
  - Thrombectomy + Corrected venous outflow
Thrombosed AVF with phlebitis
Procedure: Excision thrombosed AVF + Superficialization basillic vein
Aneurysm

• **True aneurysm**
  – Giant AVF → Advise + reassure
  – Progressive larger → Excision

• **Pseudoaneurysm**
  – Non-infection → observe
  – Infection/Bleeding → Excision
• Giant AVF
AVF true aneurysm
Infected AVF
Bleeding infected AVF
Post-access induced ulcer

• *Ischemic (Arterial) ulcer*
  – Steal syndrome
  – Concomitant PAD

• *Venous ulcer*
  – Venous hypertension
Venous ulcer after AVF creation
Post-op week 1\textsuperscript{st} - Closure AVF
Post-op week 12th - Closure AVF
Venous ulcer after AVF creation (2)
Post-op day 9th
; closure dorsal branch of cephalic vein
- Steal syndrome
- Venous hypertension
- Infected hand
Surgical correction of steal syndrome

DRIL
Vein graft
Brachiocephalic AVF with steal
Vein graft
RUDI
Conclusion

In emergency surgical complication

“Early recognize”

“Transfer as need”

“Proper management”

“Patient can safe limb and safe life”
Thank you