



Common problems and pitfall in actual practice

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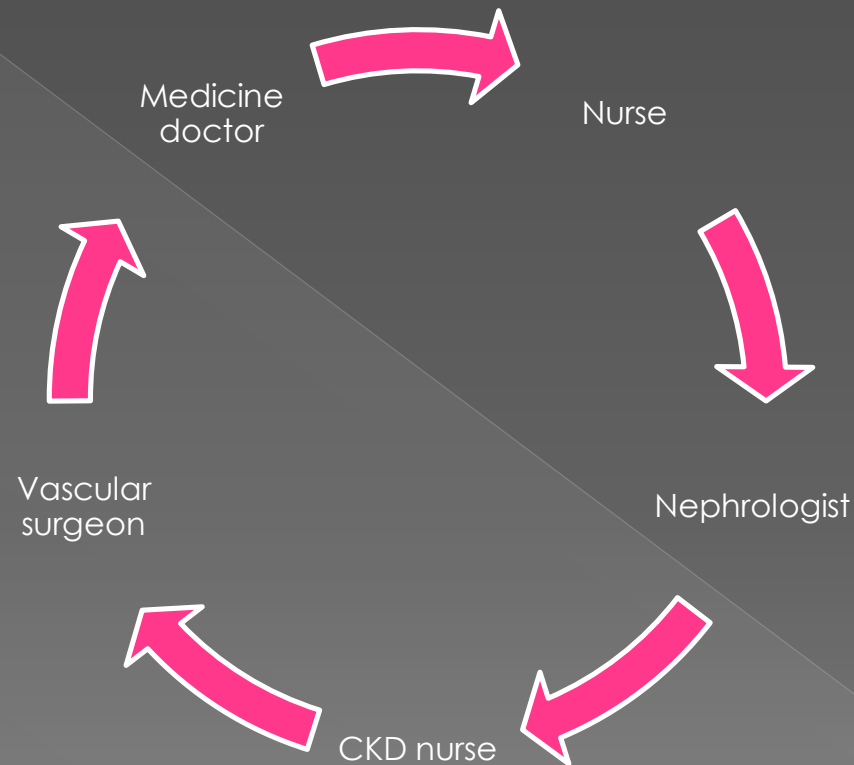
Common problems and pitfall in actual practice

1. Pre-operative problems
2. Intra-operative problems
3. Post-operative problems

Pre-operation problems

1. Poor co-operation with CKD team
2. Lack of vein preservation
3. Inappropriate time for AVF creation

1. Poor co-operation with CKD team



Develop multidisciplinary kidney team

Poor co-operation with CKD team

- CKD stage 3

- > Send patient to CKD clinic
- > Develop by medicine doctor and nurse
- > At primary or secondary hospital

Poor co-operation with CKD team

- CKD stage 4,5

- > Refer patient to Nephrologist
- > Advice modes of RRT
- > If Hemodialysis is choosed
 - Consult Vascular surgeon for AVF planning
 - Planning by Ultrasound

Pre-operation problems

2. Lack of vein preservation



Pre-operation problems

- ◉ CKD stage 3 or more

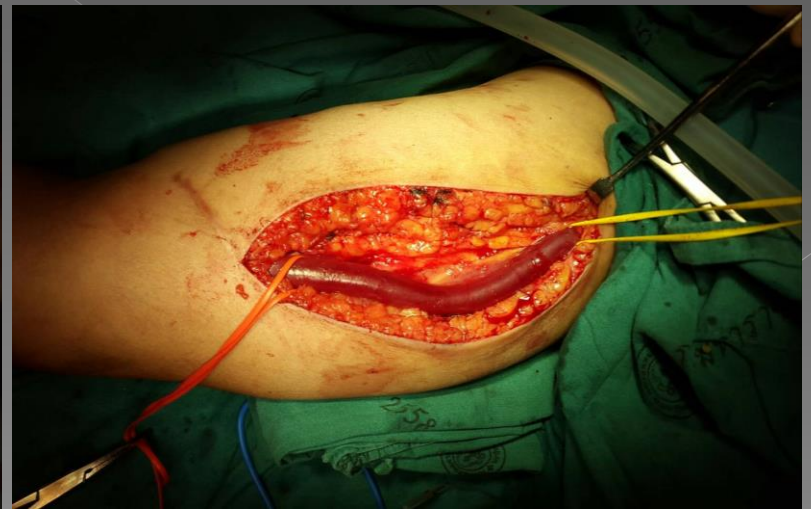
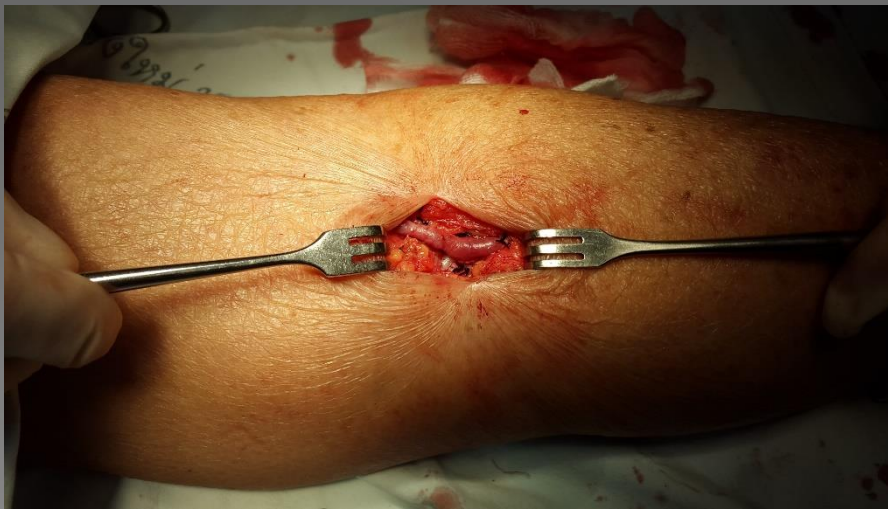
- > Preserve arm veins
 - Routine
 - Planning by ultrasound
- > Venipuncture in veins
 - Of either arm
 - On the dorsum of the hand

Pre-operation problems

3. Inappropriate time for AVF creation

- ESVS guideline 2018
 - Created 3-6 months before the expected start of HD
- CMU
 - CKD stage 5
 - Operative list ~ 2 months

Intra-operative problems



Principle of access creation

- ◉ The RC AVF is recommended as the preferred vascular access.
 - > Distal to proximal site
- ◉ When vessel suitability is adequate, the non-dominant extremity should be considered
- ◉ Do not create AV access at same site with CVS/central catheter
- ◉ Upper > Lower extremity site
- ◉ AVF > AVG > catheter

Intra-operative problems

1. Mode of anesthesia
2. Intra-op operative technique

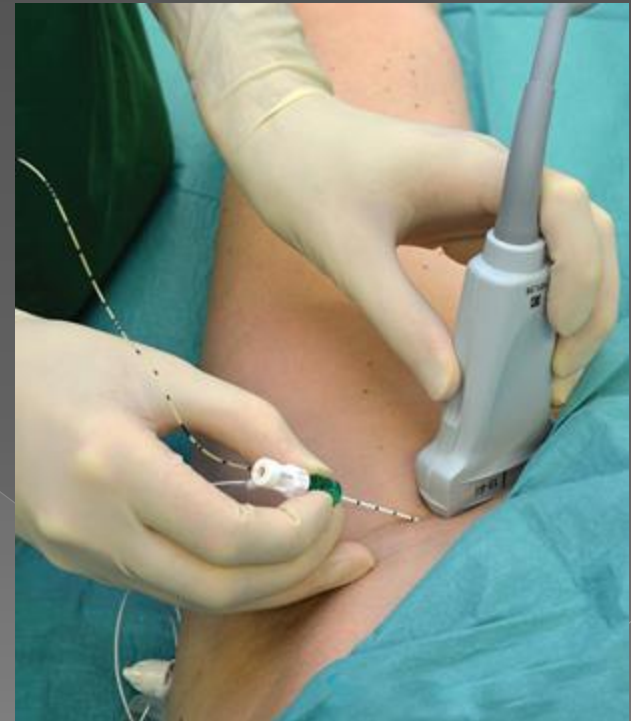
Intra-operative problems

1. Mode of anesthesia

- Regional anesthesia should be considered in preference to local anesthesia
- Possible improvement in access patency rate

Regional anesthesia

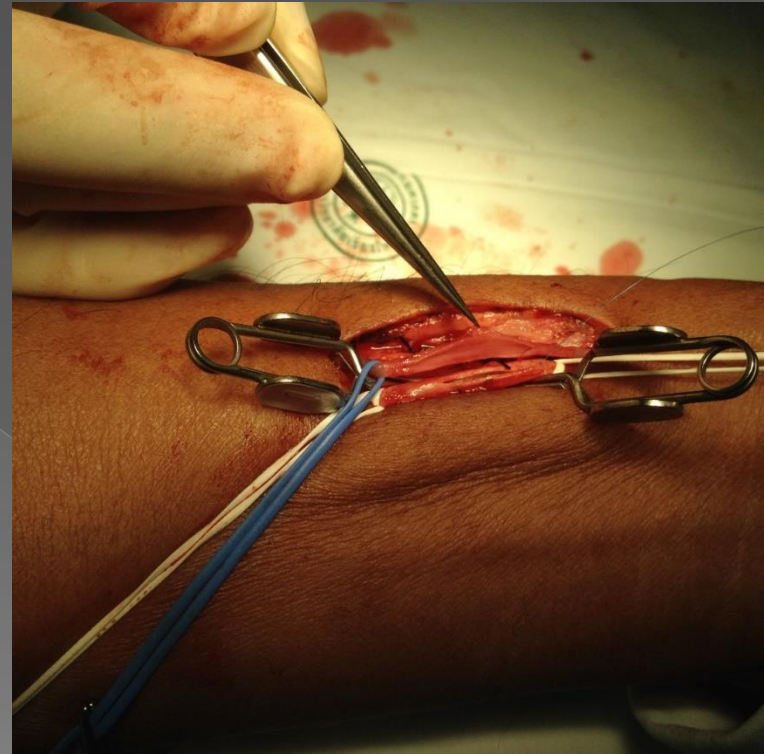
- Regional anesthesia
 - > Vasodilatation
 - > Increased fistula flow
 - > Reduced maturation time
 - > Increased early patency
 - > Increased patency at 3 months



Intra-operative problems

2. Intra-op operative technique

- Length of Anastomosis
 - 15-20 mm (Radial a base)
 - 8-10 mm (Brachial a base)
- Adequate exposure
- No tension/torsion
- Less trauma to vessels



Post-operative problems

1. No standard UE exercise program
2. Use the old criteria for AVF maturation

Post-operative problems

1. No standard UE exercise program



- ◎ Recommend UE exercise program
 - > After wound healed
 - > Increase outflow vein diameter and access flow
 - > Increase AVF maturation

Salimi F, Majd Nassiri G, Moradi M, Keshavarzian A, Farajzadegan Z, Saleki M, et al. Assessment of effects of upper extremity exercise with arm tourniquet on maturity of arteriovenous fistula in hemodialysis patients. J Vasc Access 2013;14:239e44.

◉ Recommend UE exercise program

1. Elbow Flexion-Extension



2 sets of 10
repetitions
every day

Fontseré N, Mestres G, Yugueros X, López T, Yuguero A, Bermúdez P, et al. Effect of postoperative exercise program on arteriovenous fistula maturation: A randomized controlled trial. Hemodial Int 2016;20:306e14.

- ◉ Recommend UE exercise program

2. Wrist Flexion-Extension



2 sets of 10
repetitions
every day

Fontsere N, Mestres G, Yugueros X, Lopez T, Yuguero A, Bermudez P, et al. Effect of postoperative exercise program on arteriovenous fistula maturation: A randomized controlled trial. Hemodial Int 2016;20:306e14.

- Recommend UE exercise program

3. Hand Open-Close



2 sets of 25
repetitions
every day

Fontsere N, Mestres G, Yugueros X, Lopez T, Yuguero A, Bermudez P, et al. Effect of postoperative exercise program on arteriovenous fistula maturation: A randomized controlled trial. Hemodial Int 2016;20:306e14.

Post-operative problems

2. Use the old criteria for AVF maturation

⦿ The rule of 6s

- > Diameter ≥ 6 mm
- > Blood flow ≥ 600 ml/min
- > Its depth is < 6 mm
- > Discernible margins

Post-operative problems

- The **NEW** criteria for AVF maturation
- Pre-cannulation definition
 - > Can cannulate with 2 needles
 - > Deliver sufficient blood flow for HD

Post-operative problems

- The **NEW** criteria for functional AVF
- Post-cannulation definition
 - > Can cannulate with 2 needles
 - > At least 6 HD sessions, during a 30 days period
 - > Achieve adequate HD



Conclusions

- Adjust and correct the problems to improve the access outcome
- Share your problems

