Distal SFA access for retrograde recanalization

Dr. MN Krishnan

- In many cases of iliac or proximal femoral CTO recanalization, a retrograde or bidirectional approach will be required
- The standard technique is to keep the patient in prone position after supine anterograde access (Rotisserie method)
- Other innovations
  - Popliteal puncture with
    - ext. rotation of thigh and slight knee flexion
    - Stirrup method

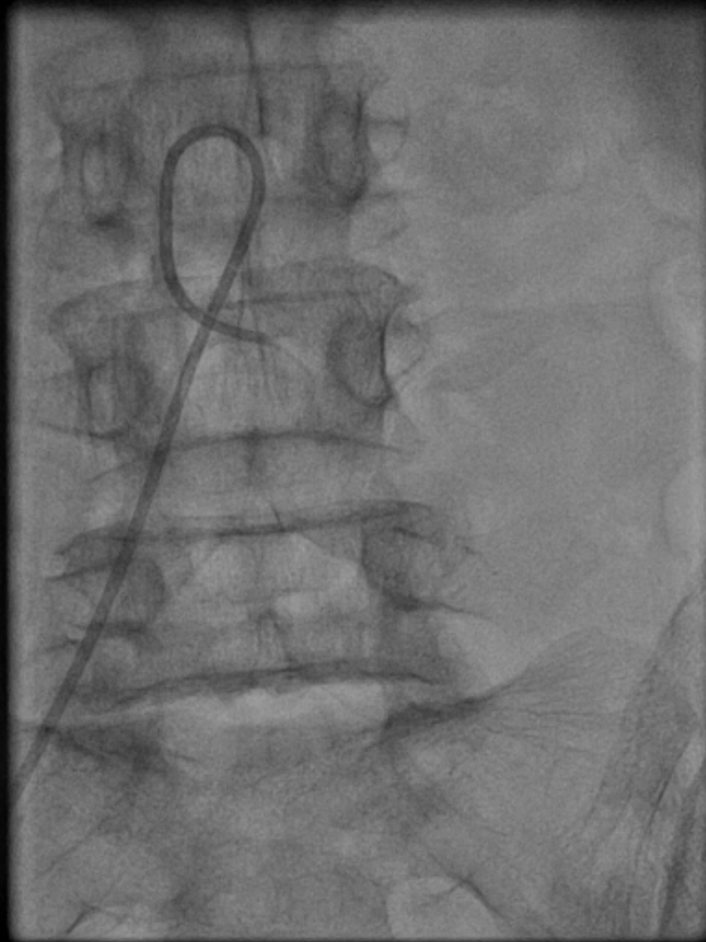
Problems with popliteal puncture

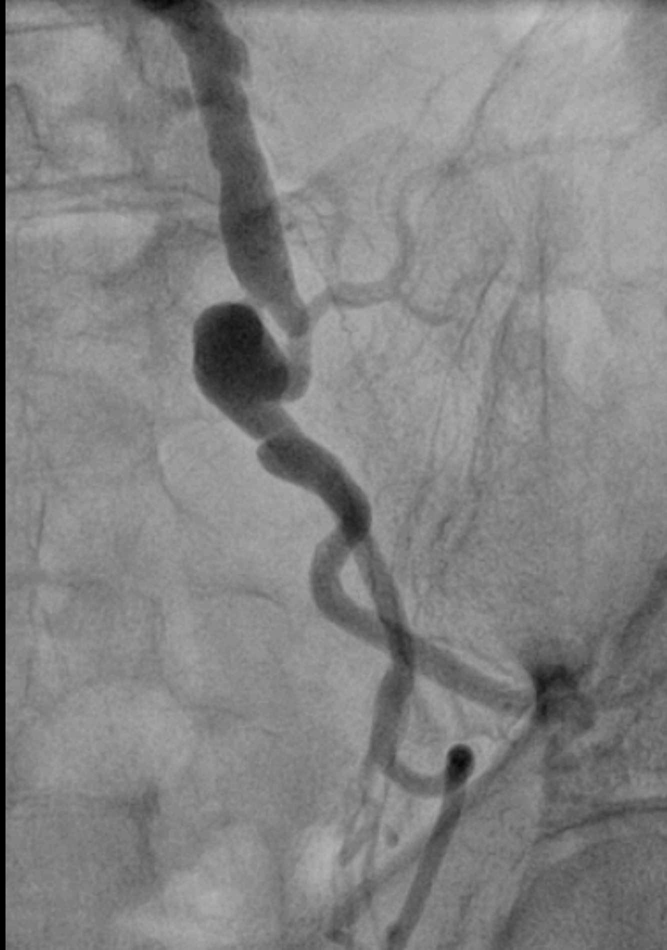
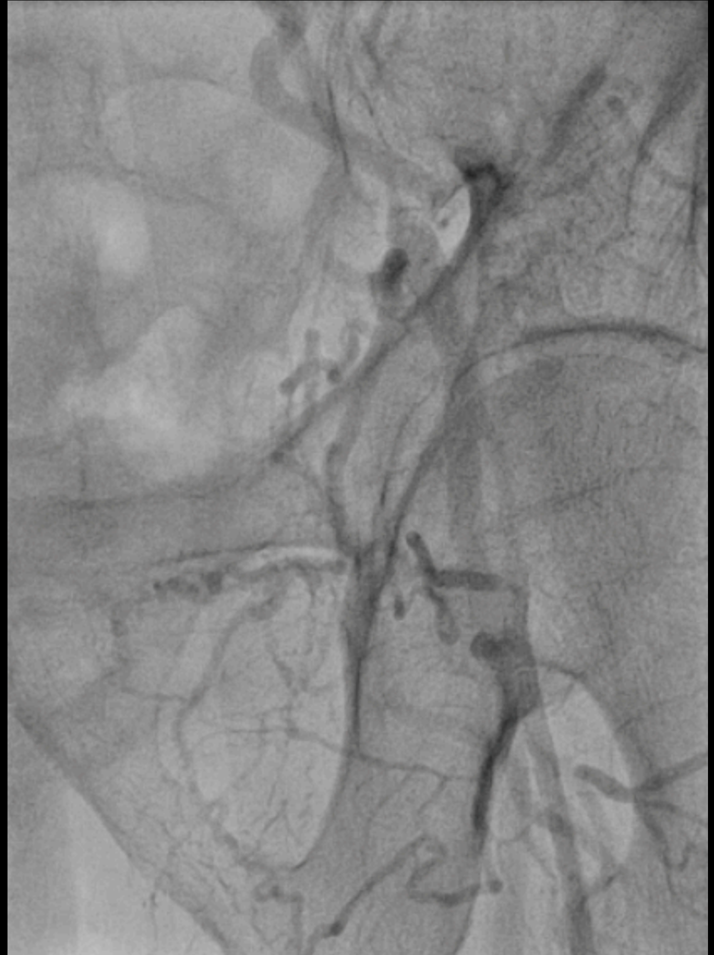
- Logistic issues of prone position
- Supine PA puncture is technically demanding
- High incidence of arterio-venous fistula because of close proximity with the vein

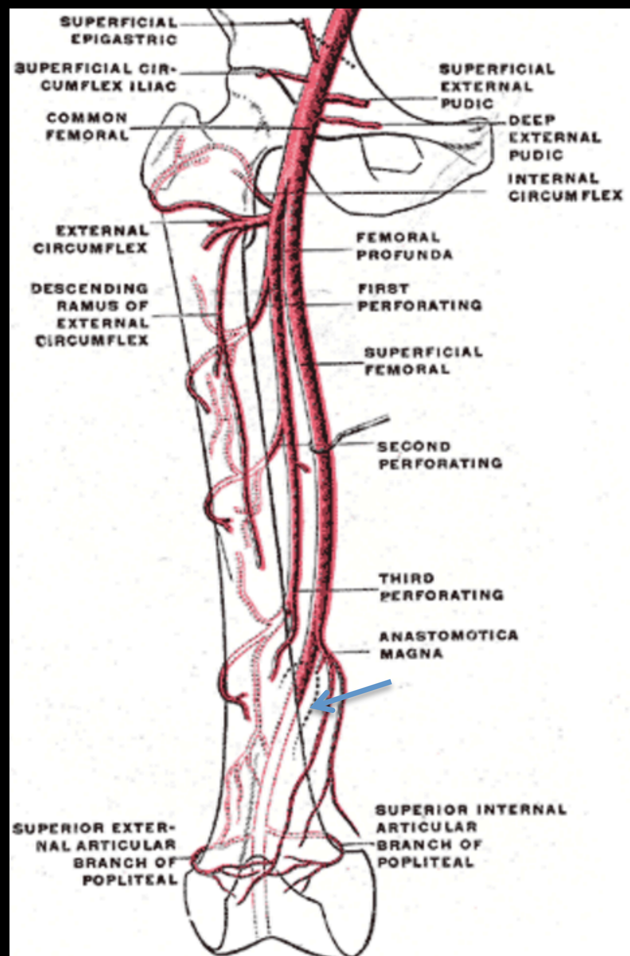
Illustrative case

- 65 yr old male
- Smoker
- Severe intermittent claudication LL
- CTO EIA
  - No stump
  - Anterograde failure on a previous occasion

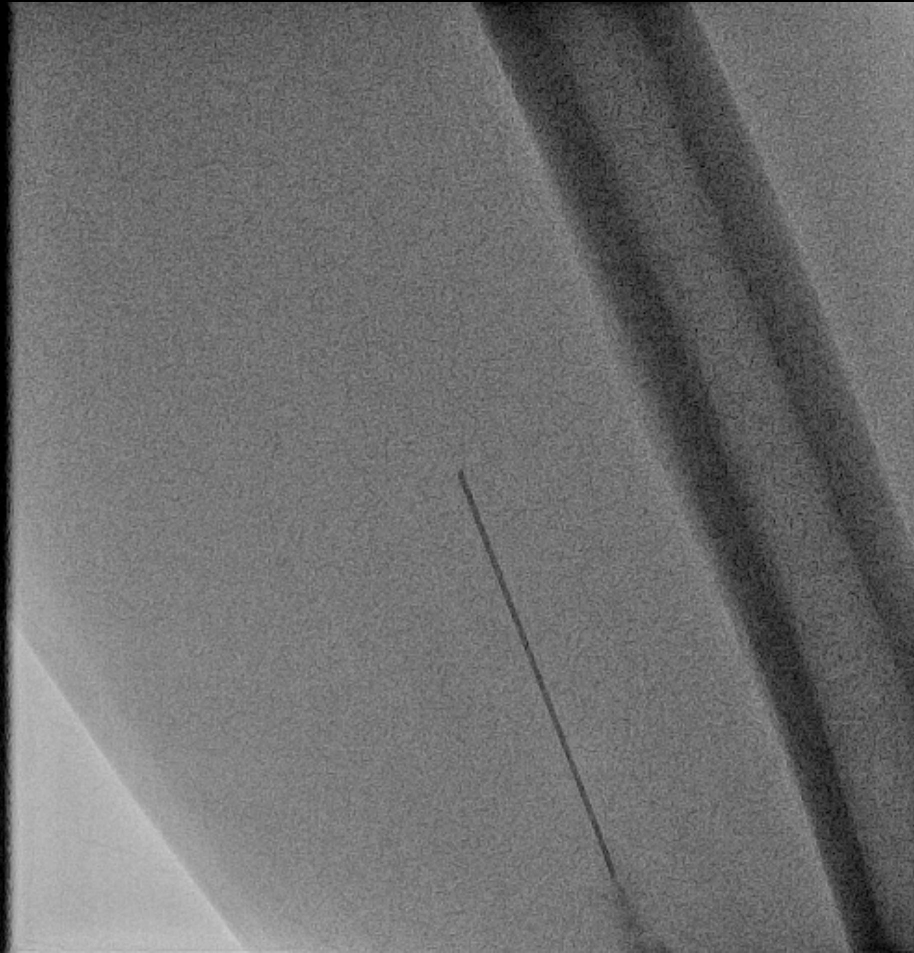
Diagnostic angio



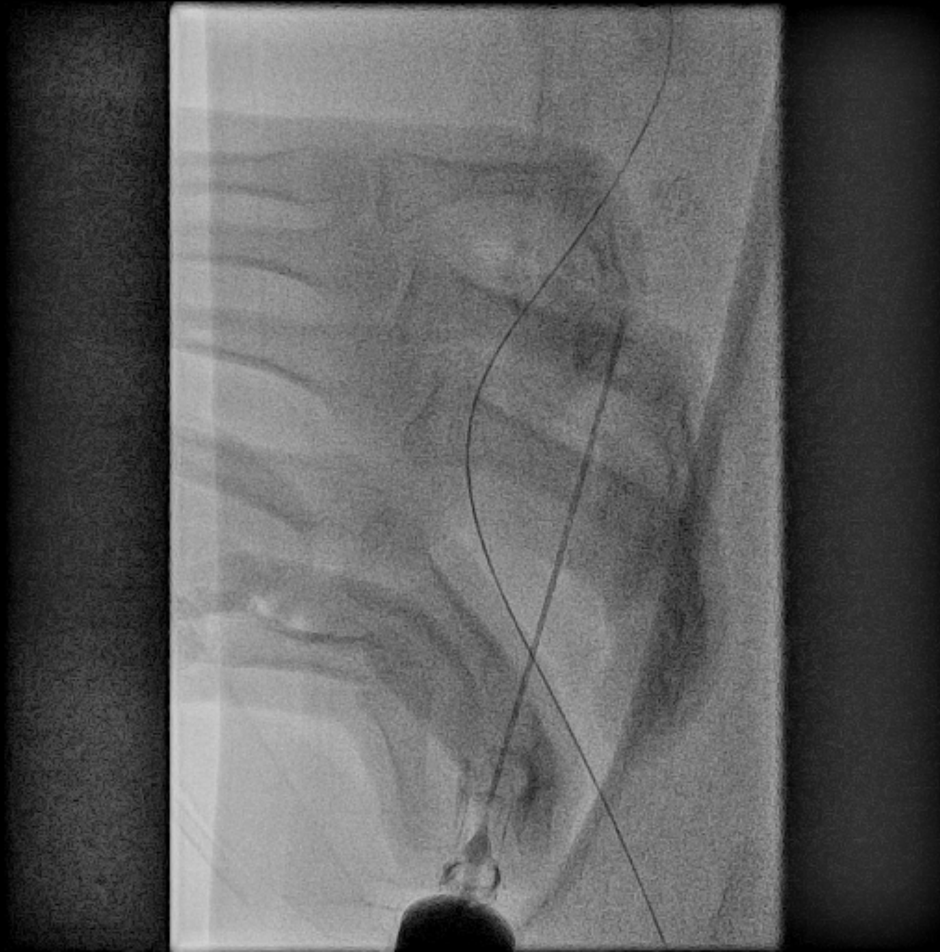




SUPERFICIAL EPIGASTRIC
SUPERFICIAL CIRCUMFLEX ILIAC
COMMON FEMORAL
SUPERFICIAL EXTERNAL PUDIC
DEEP EXTERNAL PUDIC
INTERNAL CIRCUMFLEX
EXTERNAL CIRCUMFLEX
FEMORAL PROFUNDA
DESCENDING RAMUS OF EXTERNAL CIRCUMFLEX
FIRST PERFORATING
SUPERFICIAL FEMORAL
SECOND PERFORATING
THIRD PERFORATING
ANASTOMOTICA MAGNA
SUPERIOR EXTERNAL ARTICULAR BRANCH OF POPLITEAL
SUPERIOR INTERNAL ARTICULAR BRANCH OF POPLITEAL

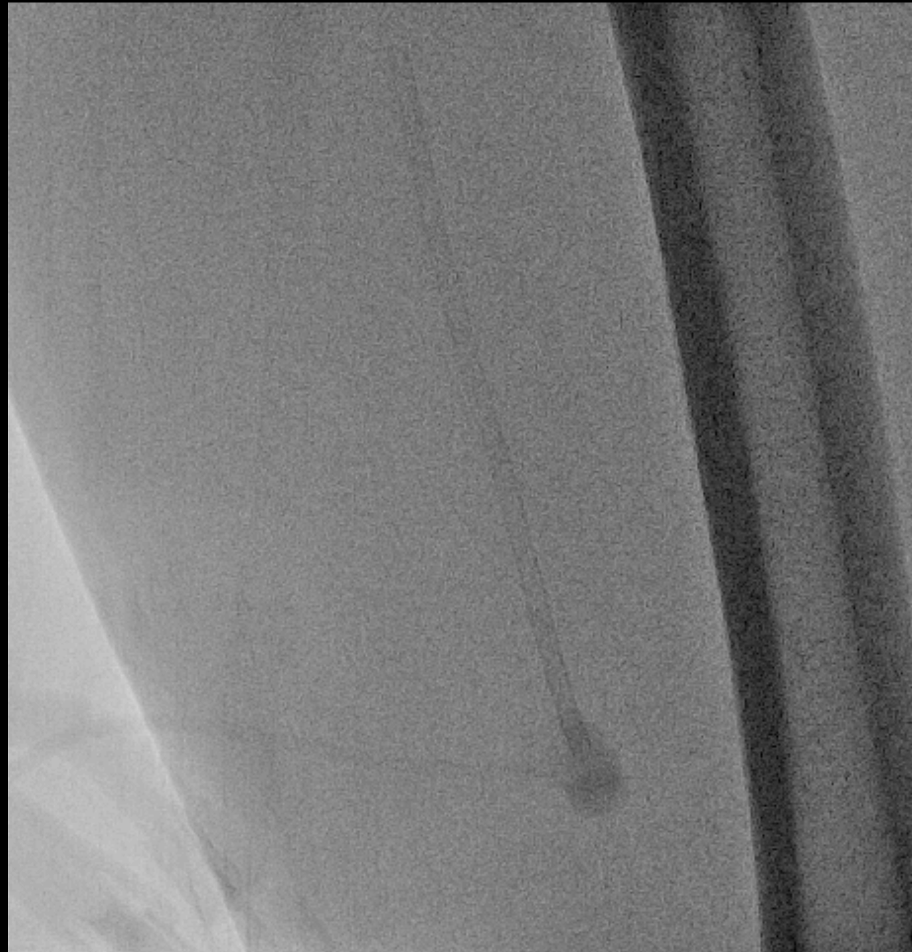
Attempted distal SFA puncture



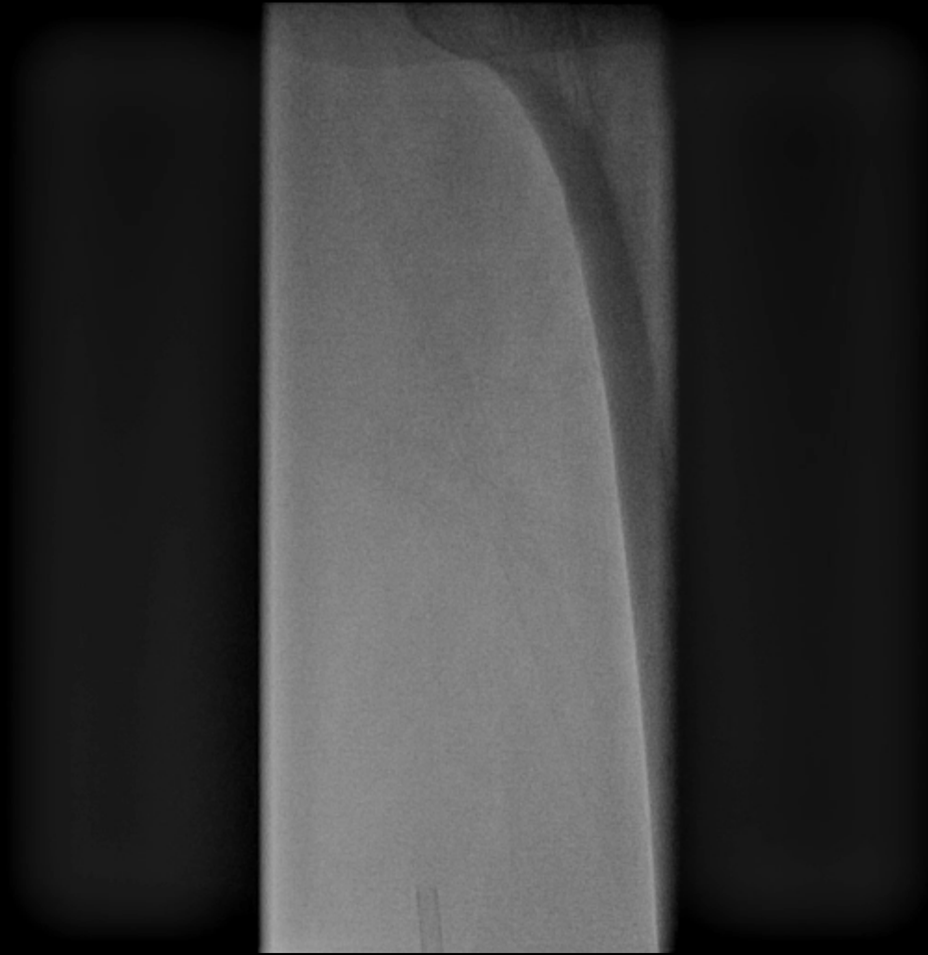
Arterial puncture- checking



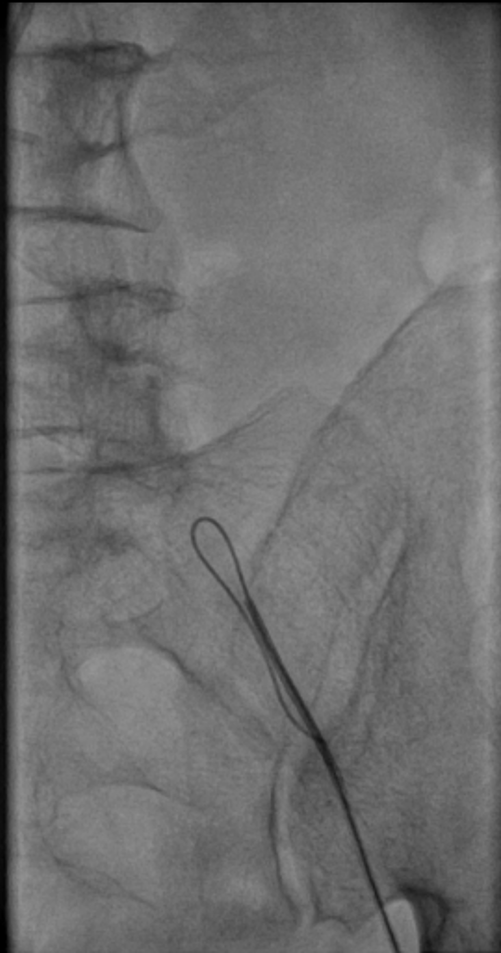
Sheath in position



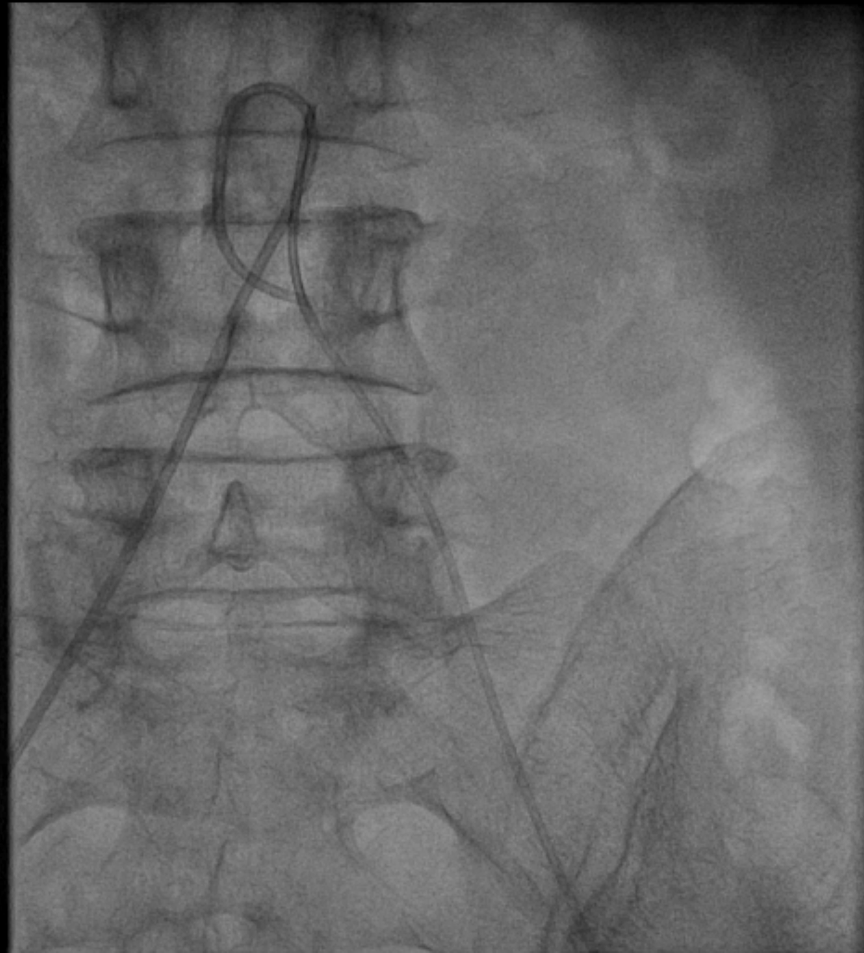
Check injection through sheath



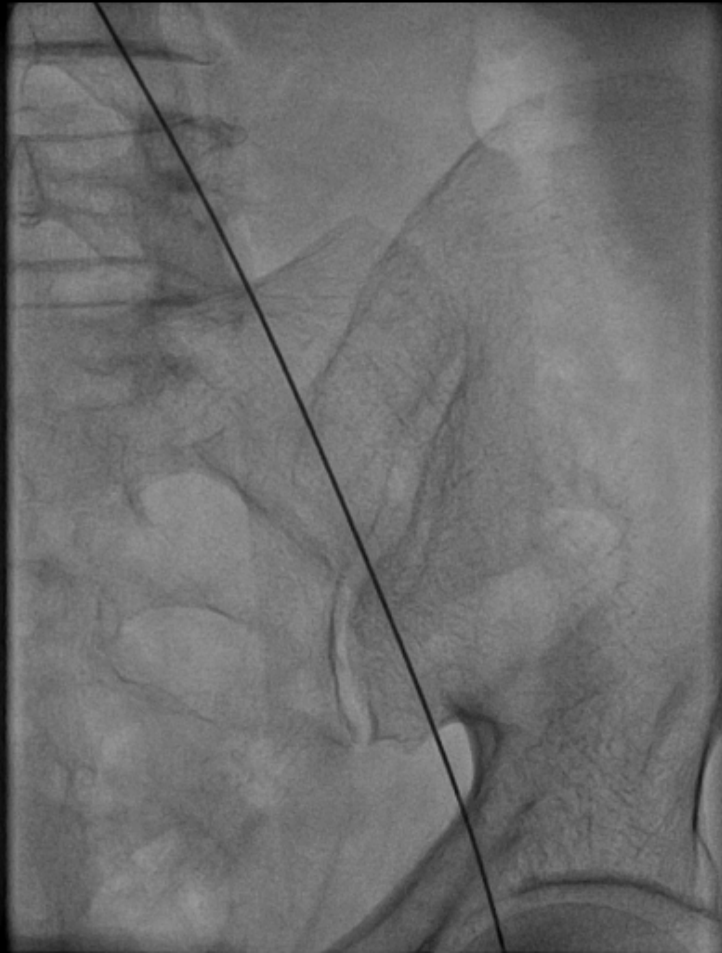
Subintimal tracking



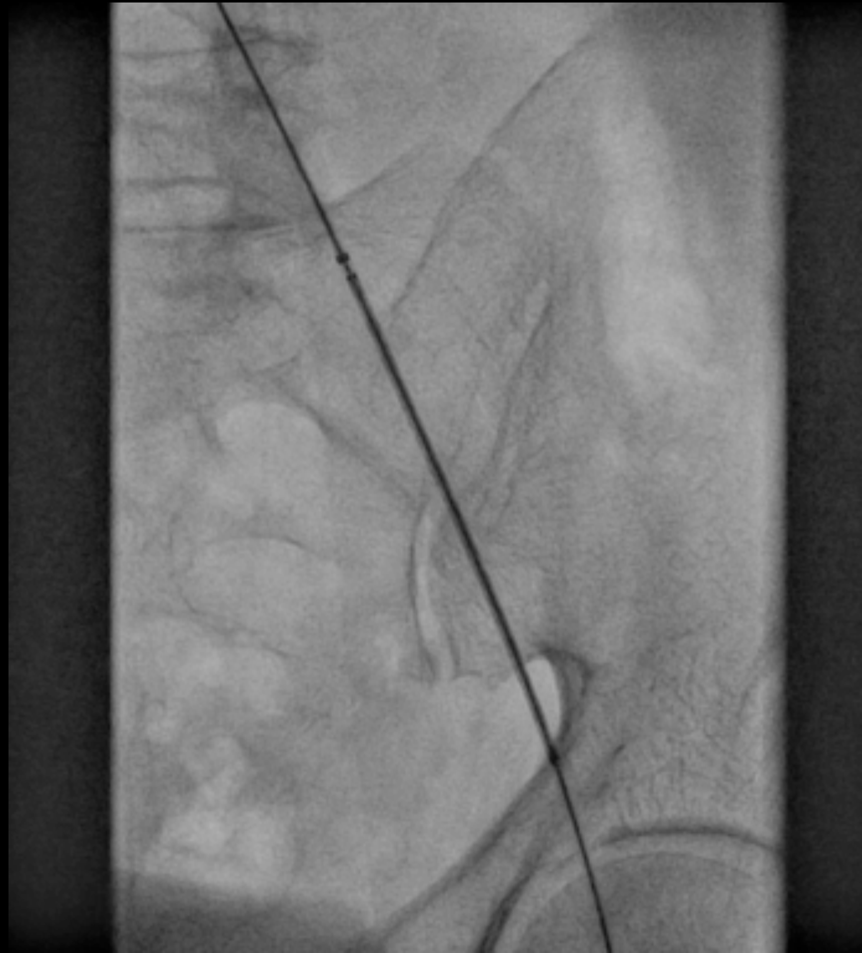
Re-entry



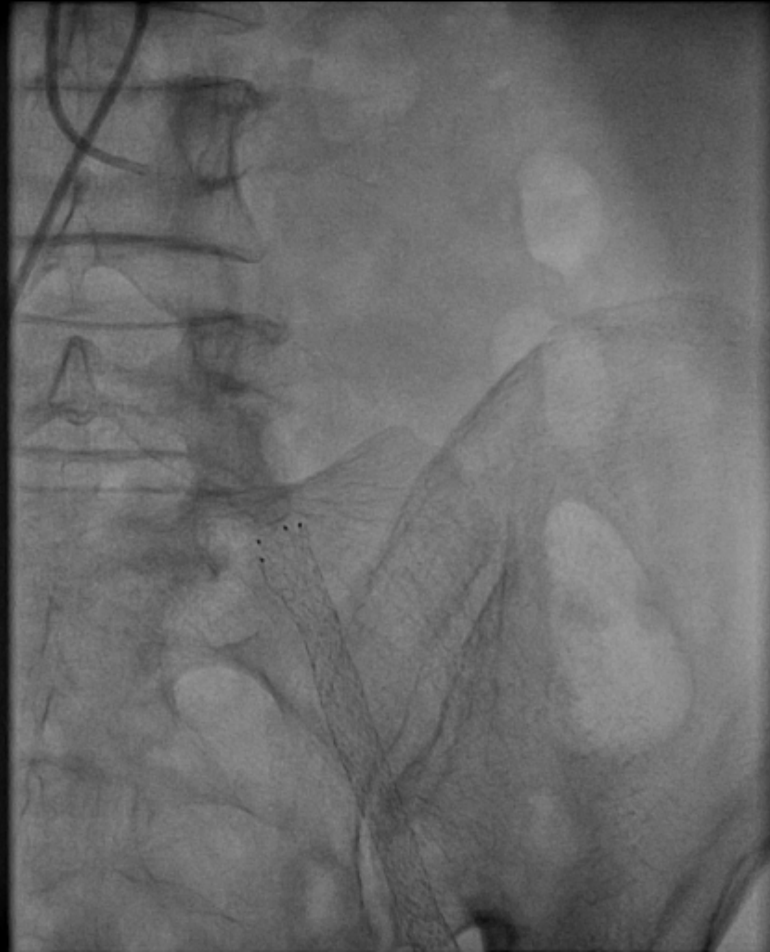
After pre-dilatation



Stent placement



Final angio



- The access site was closed with Proglide closure device
- No complications

Distal SFA access - indications

- Anterograde recanalization failure
- Bidirectional approach
- CFA or proximal SFA lesions(no space to keep the sheath)
  - where anterograde access is not possible due to very acute aortic bifurcation angle

Benefits

- No need to move the patient from supine position
- Easier to maintain sterility
- Since femoral vein is lateral and well away from artery, risk of AVF is less
- Access site complications can be treated with stent

Limitations

- At least 4-5 cm of the distal SFA should be patent
- Technically mode demanding
- Obese patients
- Closure device is preferred
  - Risk of Hematoma
  - Pseudoaneurysm

Literature

- Only very few reports:
  - Schmidt et al from Liepzig, Germany
    - %0 cases of distal SFA for anterograde failure
    - All successful
    - 2 pseudoaneurysms, 1 AVF at distal site
  - A few other stray reports of 1 or 2 cases

MCH experience

- 5 cases attempted
- Anterograde failure 3; CFA lesions 2
- All cases access and recanalization successful
- All closed with proglide
- No access site complications

Summary

- Distal SFA access is a useful technique in selected cases for femoral or iliac recanalisation
- It avoids the logistic issues of turning the patient over/ popliteal puncture with odd positions
- In most cases the access can be secured
- The limitations and advantages of the procedure should be kept in mind