

Non-union and early implant failure in a subtrochanteric femoral fracture

Case report

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Case presentation

- 71 year old male patient
- 177cm / 69kg / BMI 22.02
- Fall from his height
- Impact to the right hip
- Severe hip pain with limb shortening and external rotation
- Neuro-vascular intact

- Medical history : myocardial infarction, coronary angioplasty, abdominal aorta aneurysm (50mm)

- Active treatment : Clopidogrel, Bisprolol 10mg, Zestril 20mg...

- Assuetudes : Tabacco 12 cigarettes/day
 Alcohol : 1,5L beer / day



What to do?

- Nailing is gold-standard
 - Short nail vs long nail vs Recon nail (2 cervical screws)
 - Static vs dynamic distal locking
 - Cervical screw static vs dynamic
- Open vs closed reduction
- Cerlage wiring ?
- Traction table vs lateral decubitus

Post-op :



Post-operative

- Pros :
 - Minimally invasive technique
 - Closed reduction and preservation of vascularity / no cerclage wiring
- Cons :
 - AP and lateral reduction is good but poor reduction in oblique view
 - Rigid construct
- Patient
 - No pain
 - Good hip mobility
 - Touch weight bearing for 6 weeks
 - Carried on smoking...

6 weeks



D



3 months

D



D



6 months post-op

- Patient presents to ER
 - Right hip pain during his shopping
 - No trauma
 - Was full weight bearing with a cane

- Pain at mobilisation of the hip
- Neuro-vascularity intact
- Still smoking

6 months

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D



6 months

RHP

RHP

RAH

LFA

LFA

LPH



What to do now ?

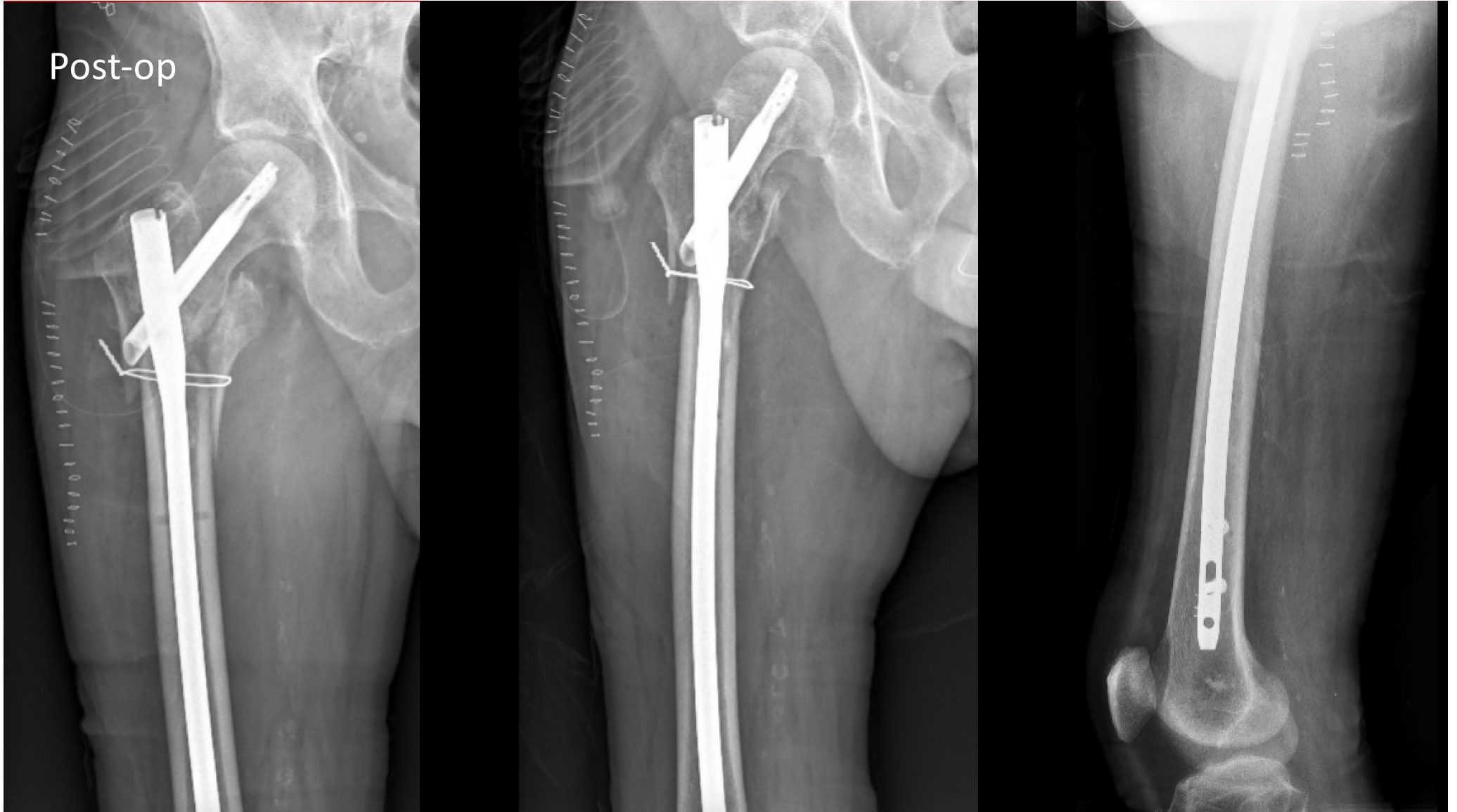
Atrophic non-union and early implant failure

- Explant of the cervico-medullary nail
- Bone grafting ?
- New osteosynthesis :
 - Nail exchange for a long nail
 - +- Cerclage wiring
 - 95° blade plate
 - Proximal locking plate
- What about infection ?
 - 1 or 2 stage surgery
- Gold standard : 95° blade plate

Post-op




Post-op



Redo post-op

- Good reduction in 3 planes
- All the bacteriological analysis came back negative

- Patient had very little pain
- Good hip ROM
- Touch weight bearing for 6 weeks
- Stop smoking !



Recent case, hope
the fracture will
now heal...

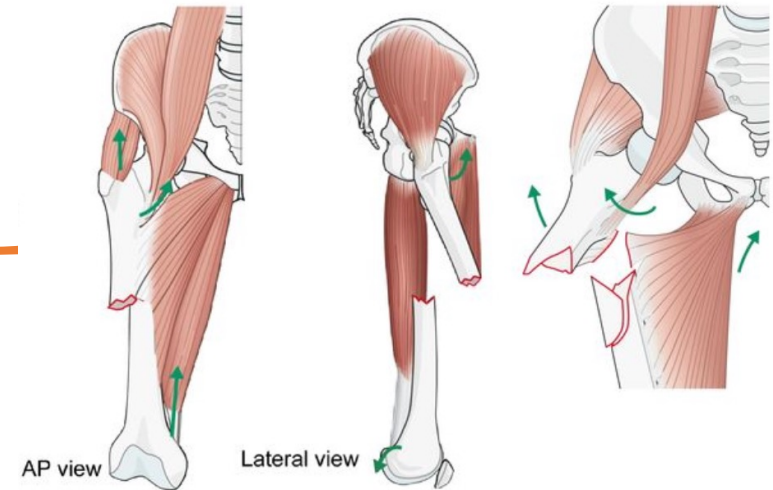
Discussion

- Method of primary osteosynthesis :
 - Closed vs open reduction
 - Cerclage wiring ? (what about Clopidogrel ?)
 - Long vs short nail
 - Locking options : static or dynamic
 - Classic nail vs Recon nail with 2 cervical screws
 - Post-op weight-bearing

- Method of 2nd surgery :
 - Exchange nailing vs angulated blade plate
 - Excessive debridement of the non-union or stay Minimally Invasive
 - Bone grafting necessary ?
 - Post-op weight-bearing

Tips & Tricks

- Know the deforming forces
 - Not too much traction
 - Play on rotation (not always patella at the zenith)
- Perfect entry point
 - A bit more medial (not piriformis though)
 - Use a Joystick K-wire
- Cerclage wiring if needed
 - depending on reduction obtained by closed methods
 - If cerclage is necessary, slight abduction will usually help
 - Then back to adduction for correct entry point
 - Lowman clamp can help
- ...





Thanks for your
attention