REPLACEMENT IN TROCHANTERIC FRACTURES

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Unstable trochanteric fractures are associated with high risk of morbidity & mortality.

Comminution, osteoporosis & instability are the poor prognostic factors in spite of best stable fixation & contradicts early weight bearing.
Classification

A1.1  A1.2  A1.3

A2.1  A2.2  A2.3

A3.1  A3.2  A3.3

Type I  Type II

Type III  Type IV
The goals of surgical treatment
- immediate pain relief
- rapid mobilization and ambulation
- accelerated rehabilitation
- maintenance of independent living.

The ideal implant
- should have a low risk of complications and subsequent revision and
- Patient should not be hampered by his or her treated hip fracture during their life time.
Reported results of DHS

- With osteosynthesis:
  - Stable #s as high as 100%
  - Approximately 50% failure rate for fractures with severe comminutions, reversed obliquity, osteoporosis, inadequate reduction, and poor implant placement
  - Failure of osteosynthesis results in nonunion, cutting off, packing out, femoral head perforation with a profound risk of functional disability, and mortality.
IM fixation

- PFN have shown reduced tendency for cut-outs in osteoporotic bones and also have better results in cases of unstable intertrochanteric fractures.

- However, the role of the intramedullary devices in unstable osteoporotic and severely comminuted intertrochanteric fractures is still to be defined.

- Endoprosthetic replacements have also been shown to achieve early rehabilitation of the patient and good long-term results.
WHY REPLACEMENT

- Failure rate as high as 20% reported
- Late mobilisation leads to high rate of general complications.
- Industry drive
Advantages of replacement:

- Reduced rate of complications:
  - Early walking
  - Immediate weight bearing
  - Early exercises of involved limb
SURGICAL HIGHLIGHTS

- Lateral position

- Held the limb in traction to avoid further displacement

- Posterolateral approach my choice

- One single flap of rotators with capsule
HIGHLIGHTS

- Fragments of GT were fixed with SS wire (fig of 8/ k wires) / ethibond/ loops & cables/ screws

- Osteotomise the femoral neck & remove the head before dislocating the hip

- Prepare the acetabulam as planned & place the cup

- Femoral reaming & others as routine
Greater trochanter issues

- Can be initially fixed provisionally

- My choice fix it in the last if required
Conclusion

Primary non-cement total hip arthroplasty with double strands and double loops figure of 8 wiring in elderly patients with unstable intertrochanteric fractures showed satisfactory results. These results are expected to be useful for further studies with a long-term follow-up and in development of a reduction method.
- Often GT doesn’t need any fixation if found stable after cementation

- Fixation of GT can be reinforced with cement if required
If in continuity, should be reconstructed with the shaft and greater trochanter using steel wires.

No need to fix the isolated fragments of lesser trochanter.
Cementing

- 2nd generation cementing / sometimes hand cementing

- My opinion: using cement guns in aged, osteoporotic prolonged immobilised pts should be avoided.

- Better always use cement restrictor

- Any protruded cement between the bone fragments should be cleaned meticulously.
Precautions

- Meticulous care should be taken to preserve the integrity of the greater trochanter, abductor muscles & all vascularised bone fragments.

- Careful restoration of neck length, offset & version to maximise stability
Hemiarthroplasty in these cases is a surgically demanding technique.

Bad surgical technique may lead to prolonged operative time, high incidence of deep infection, dislocation, and a poor radiological and functional outcome.
POST OP

- Normal post op protocol
- Better to use abduction pillow or knee brace during night for first 3-4 weeks
Primary cemented replacement hip arthroplasty is associated with lesser pain, better walking ability without mortality or psychological problems, and with measurable better overall functional outcomes compared with salvage replacement.
Bipolar vs THR

- No dedicated study to compare results
- Acetabular erosion is the major risk associated with bipolar
- THR demonstrate superior longevity
My take on bipolar vs THR

- Aged, relatively less active pts with expected longevity 5-10 years & primary cases: bipolar

- Expected life > 10 years, relatively active pts & salvage cases: THR
Postop dislocations

- Major concern
- Reported rate 0-45
- Much higher rate of pulmonary complications & bed sores
Precautions to minimise risk of dislocations

- Optimal orientation of the acetabular component
- Use of acetabular component with long posterior wall
- Meticulous repair of capsule
- Abduction pillow/brace
THR is a valid treatment option for mobile & mentally healthy patients. It offers quick recovery with little risk of mechanical failure, avoid the risk associated with internal fixation & enables the patient to maintain a good level of functional beginning in the immediate postoperative period.
THANK YOU VERY MUCH FOR YOUR PATIENT HEARING

OPENING SHORTLY

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