Fracture Patella

[Document subtitle]

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Fracture Patella

Anatomy:
- Two surfaces: articular, non-articular
- Articular side has seven facets and covered by thickest cartilage

Function:
- The most important function of patella is to increase the lever arm of quadriceps facilitating the quadriceps action and lowering its energy demand to extend the knee

Mechanism of injury
1. Direct trauma to the knee
2. Indirect trauma: violent contractions of quadriceps which is trying to prevent vertical free fall of body.

Suggestions/queries @ vivekortho@yahoo.co.in
Classification:

Based upon radiological presentation

1. Transverse
2. Polar: # line separating the superior/inferior pole of patella
3. Vertical
4. Stellate: Undisplaced comminuted # patella
5. Comminuted

All types can be Undisplaced/displaced

- Transverse
- Polar
- Vertical
- Stellate
- Comminuted
Clinical features: Symptoms

1. Pain
2. Swelling
3. Inability to walk or bear weight over the injured extremity

Sign

1. Palpable gap over patella
2. Extensor lag
3. Painful and limited movement

Investigations

1. Plain xray of knee: AP, Lateral
   Skyline view is done to look for vertical # which may remain obscure on AP & Lateral views

AP view of knee showing comminuted patella #
Lateral view of knee showing Inferior pole fracture
Treatment:

It depends upon

1. Undisplaced or displaced #
2. The radiological type of fracture

1. **All Undisplaced #s / Stellate #** can be treated with above knee cylindrical cast for 6 weeks
   Followed by
   a) knee mobilisation and quadriceps strengthening exercises
   b) gradual weight bearing

2. Displaced fractures are treated by following methods
   a) Transverse #: ORIF and tension band wiring
   b) Polar fracture: excision of pole (partial patellectomy) and repair of quadriceps mechanism
   c) Vertical #: ORIF by cancellous screws
   d) Comminuted #: Total patellectomy & repair of quadriceps Mechanism
Tension band wiring (TBW)

Inferior pole excision (partial patellectomy)

Total patellectomy

Complications of patella fracture

1. Knee stiffness
2. Extensor lag
3. Patellofemoral osteoarthritis