COMPRESSION BOLTS AT THE DISTAL SIDE OF THE KNEE


Athens General Hospital “Evangelismos”
Aim of the Study

To verify the usefulness of compression bolts in the management of specific intra-articular proximal tibial fractures
Schatzker classification of tibia plateau fractures
## Patients & Methods

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
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<tbody>
<tr>
<td>Period</td>
<td>June 2005 – Dec 2010</td>
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<tr>
<td>Patients</td>
<td>12 {9 ♂ – 3 ♀}</td>
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<tr>
<td>Ages</td>
<td>25 – 76 y (mean 41.3)</td>
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<tr>
<td>Fractures</td>
<td>Type I: 4 (Group A)</td>
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<td>Type V: 1 &amp; Type VI: 7 (Group B)</td>
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<td>Time of surgery</td>
<td>1 – 32 days post injury (av: 8)</td>
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<td>Follow-up</td>
<td>6 – 54 months (av: 18)</td>
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<td>Surg. technique</td>
<td>Type I fractures: compression bolts</td>
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<td>Type V and VI: bolts and IM nailing</td>
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Schatzker type V & VI: Surgical technique
Results

• No neurovascular complications or infections
• No loss of reduction or other problems related to the implants
  • All fractures healed from 6 – 20 weeks
• All patients regained full range of knee motion and returned to pre-injury level of activities
• No-one has required metalwork removal, so far
Cases
31y ♂, RTA, Schatzker I
58y ♂, RTA Schatzker I or II

6m post-op, FWB
68y ♀ RTA, Schatzker V
42 y old ♂, RTA, heroin addict Schatzker VI
2 months post-op, PWB
Discussion

There have been several studies in the English literature that describe the use of cannulated or solid cancellous screws in the management of simple fractures (Schatzker I – III)

Mallina R. et al: Knee, 2010 (UK)
Kayali C. et al: Canadian Journal of Surgery, 2008 (Turkey)
Walz M. et al: Unfallchirurg, 2006 (Germany)
Sirkin MS. Et al: Clin Orthop Relat Res, 2000 (USA)
In the present study we present our experience with the use of compression bolts in both simple and complex intra-articular fractures of the proximal tibia.
The results have been excellent and the condylar bolts seem to enhance the stability of fixation while facilitate the implementation of a truly minimally invasive technique (IM Nailing) in complex fractures and expedite mobilisation and weight bearing.
Future actions

- Biomechanical studies
- Comparative clinical studies
- Impacted tibial plateau fractures
Thank you