

CASE DISCUSSION 06/02 MORNING MEETING

R2翁浚睿/ VS詹益聖

Case Presentation

- Basic Data:
 - Chart number: 21425982
 - Age/Sex: 38M
- Underlying disease: denied HTN or DM
- Traffic accident on 2011/05/08 (scooter vs car)
- Initial T/P/R: 36/75/13 BP: 108/48
- GCS: E1V1M5
- Left side poor movement
- Intubation → emergent whole body CT

CT diagnosis

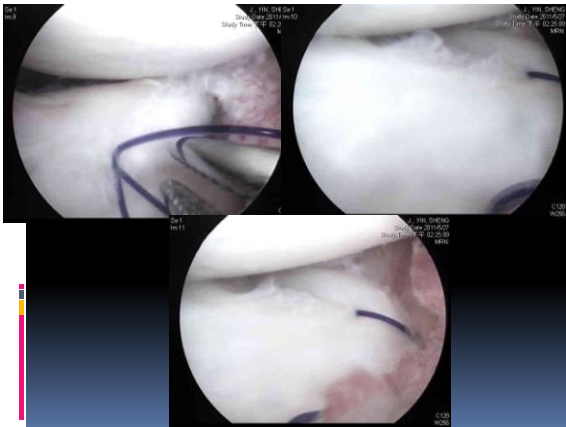
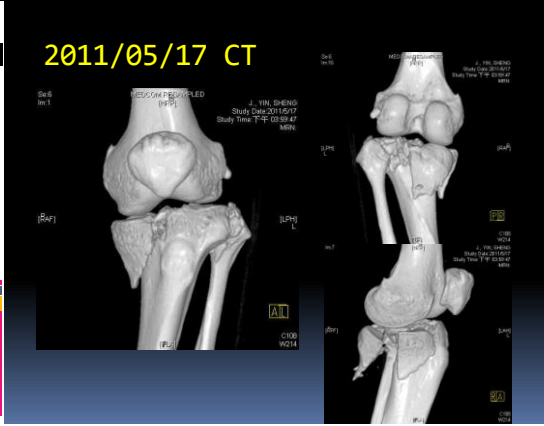
- Bilateral temporal contusion hemorrhage, SAH, SDH
- Facial bone and nasal bone fracture
- Bilateral lung contusion

- Emergent operation on 5/4
 - ICP monitor
 - Post OP ICU care
- Left calf swelling noted at ICU

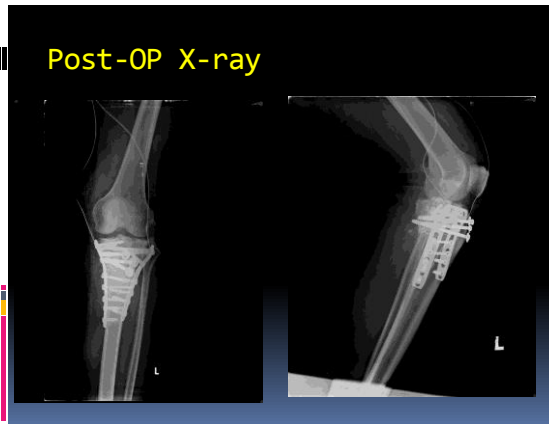
2011/05/05 X-ray



- 5/9 M6 status
- 5/15 Extubation
- 5/16 Transfer to ordinary ward
- 5/17 E4V1M6



- OP findings
 - Left tibial plateau complex fracture, Shatzker type 6
 - Left lateral meniscus peripheral tear
- OP methods
 - ARIF with bilateral AO locking plate with 3 screws/washers fixation
 - Scopic Outside-in repair X II
 - bone grafting



Tibial Plateau Fracture

- 1% of all fractures and 8% of fractures in elderly
- Associate injury
- Physical examination
 - Soft tissue condition
 - Neurovascular
- Radiographic exam
 - X-ray: AP & lat
 - CT



Tibial Plateau Fracture

- Complications
 - Arthrofibrosis
 - Infection
 - Compartment syndrome
 - Malunion / nonunion
 - Posttraumatic osteoarthritis
 - Peroneal nerve injury: lateral aspect of leg

Surgical Approach

- Posterior approach
- Posteromedial approach
- Posterolateral approach

Posterior approach

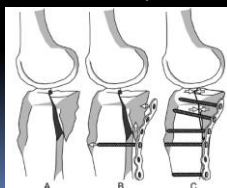
- High complication rate
- Technical demanding
- Neurovascular injury risks
- Extensive soft tissue dissection and postoperative pain



Posteromedial Supine Approach for Reduction and Fixation of Medial and Bicondylar Tibial Plateau Fractures

Yoram A. Weil, MD, Michael J. Gardner, MD, Seervathsa Borstiah, MD, David L. Helfet, MD, and Dean G. Lortch, MD

- Distinct fracture patterns that involve a PM or PL coronal shear fracture line
- The approach is sufficient for buttressing the posteromedial / posterolateral spike



J Orthop Trauma 2008

Single or Double plate??

- Computer modeling has demonstrated that the majority of screws placed in a lateral proximal tibia locking plate may fail to capture the posteromedial fragment.
- Biomechanical evidence implies that dual plating increases resistance to subsidence when compared with a unilateral locking plate in bicondylar fractures

Higgins TF, et al. J Orthop Trauma 2007

Arthroscopic-Assisted Reduction With Bilateral Buttress Plate Fixation of Complex Tibial Plateau Fractures

Yi-Sheng Chan, M.D., Li-Jen Yuan, M.D., Shou-Suei Hung, M.D., Ching-Jen Wang, M.D., Shang-Won Yu, M.D., Chao-Yu Chen, M.D., En-Kai Chao, M.D., and Mel S. Lee, M.D.

- 18 complex tibial plateau fracture (Schatzker type V:11 type VI:7)
- Arthroscopic-assisted bilateral buttress plate fixation

Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 19, No 9 (November), 2003; pp 974-984

Advantage of ARIF

- Accurate fracture reduction
- Diagnosis / treatment of intra-articular lesion
- Less dissection than ORIF

Associated Injury	No.	Percent
Lateral meniscal tear	7	38.9
Medial meniscal tear	4	22.2
ACL partial tear	1	5.5
ACL tibial eminence avulsion	3	16.7
PCL partial tear	1	5.5
MCL injury	3	16.7
LCL injury	1	5.5
Articular cartilage lesion	7	38.9
No. of patients involved	13	72.2