Intraoperative and Postoperative Complications and Management in TPLO Surgery

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Complications

- 2-16% (mean 9,2%) Incisional complications (edema, swelling, seroma, dehiscence)
- 5,9-7,1% (6,0%) Infection
- 4,9-7,1% (5,4%) Bone-related problems (tibial tuberosity, fibula, tibial fracture)
- 0,9-6,7% (2,4%) Surgical problems (hemorrhage, broken drill bit, damage to medial tibial cortex, intra-articular screw placement, etc.)
- 1,1-5,2% (2,4%) implant-related problems (screw loosening, breakage)
- Re-Op: 5-9%

Other complications (Patellar tendon thickening/Tendinitis…)

Complications


Complications

- 4,2% (20) major comp with surgical revision, 5,5% (26) minor
- 3,1% (15) ‘pivot shift’
- 2,1% (10) OPI tibial injuries
- 2,1% (10) implant-related complications (broken screwplate loosening, bent plate)
- 6,6% major complications
- 6,6% OPI infection
- 2,8% subsequent meniscal injuries

Other complications (Patellar tendon thickening/Tendinitis…)

Complications


18,8 – 33%
Intraoperative Complications

- Instruments
  - Jig
  - Tibial fracture, "correction"
  - Saw
    - Synthes-Slocum
    - 64% less heat generation
    - 63% faster cutting
    - (50% more wear after 19 uses)


- Pre-operative Planning
  - Tibiaplateau angle
  - Corrective osteotomy

Intraoperative Complications

- Surgical Technique – Joint
  - Arthrotomy
  - Arthroscopy
  - MRI
  - (Ultrasound)
  - Cleaning up (Debridement of ACL-tbers, etc.) ??
  - Meniscal (palpation)
  - Additional lesions (collateral ligaments, long extensor, etc.)


- Surgical Technique
  - Incision
  - Soft tissue protection
    - A. poplitea
    - Muscles
    - Medial fascia
  - Infection

Intraoperative Complications

- Surgical Technique
  - Anatomic landmarks for osteotomy
  - hypodermic needles


- Surgical technique
  - Cut
Intraoperative Complications

- Surgical technique
  - Screw placement
    - Infracture
    - Cross/knee osteotomy
    - Trans cortical breakage
    - Locking screws
  - Fluoroscopy

- Surgical Technique
  - Plate placement
    - Distal
    - Size
    - Locking Plate
    - Lateral deviation

Postoperative Complications

- Meniscus
  - At surgery (complete rupture)
    - 20-60%
  - Subsequent tears
    - 4.9 %
    - 3.8 % (Gatineau, 2011)

- Fracture
  - Fibula
    - Tuttle: increased body weight; greater preoperative TPLO; greater change in TPA; TPLO performed without a jig
  - Taylor: increased body weight; fibular drill hole (%)
  - Tibia
    - 2


Postoperative complications

- Fracture tuberositas tibiae
  - TT Thickness, bilateral surgery
  - 4.2%


- Infection
  - MRSA/MRSI

Postoperative complications

- Implant removal

Postoperative complications

- Implant failure
  - Plate
  - Screws


Questions?

- Patella tendon thickening / tendinitis


Mattern KL et al.: Radiographic and ultrasonographic evaluation of the patellar ligament following tibial plateau leveling osteotomy. Vet Radiol Ultrasound 2006