



Infection After ACL Reconstruction

A 12 year single center experience

*Hantes M, Raoulis V, Doxariotis N, Karatzios
K, Hliapas S, Agorastakis D, Malizos KN*



Department of Orthopaedic Surgery,
University of Thessalia, Larissa, Greece

www.ortho-uth.org

Incidence of infection after ACL reconstruction

Very low: 0.14% - 1.7%

| Study | No of ACLs | infections | Rate of infection |
|---------------------|--------------|------------|-------------------|
| Burks et al | 1918 | 8 | 0.42% |
| Fong et al | 472 | 7 | 1.48% |
| Indelli et al | 3.500 | 5 | 0.14% |
| Mc Allister et al | 831 | 4 | 0.48% |
| Musso and McCormack | 1094 | 11 | 1.01% |
| Schollin et al | 575 | 10 | 1.74% |
| Viola et al | 1794 | 14 | 0.78% |
| Williams et al | 2500 | 7 | 0.30% |
| Total | 12684 | 66 | 0.52% |

Purpose

To report the incidence of septic arthritis after ACL reconstruction and management of this complication using a **specific protocol**

- Arthroscopic debridement and irrigation of the knee joint immediately after a diagnosis of infection
- In case of Recurrence knee irrigation with **graft hardware removal** and later re-implantation

METHODS

- All primary ACL reconstructions performed in our institution between January 2002 and January 2014 were included in this study
- Minimum follow-up 6 months

DIAGNOSIS OF INFECTION

- ◎ **Clinical symptoms**, (*Fever, swelling, severe pain, tenderness & Restricted motion*)
- ◎ **Synovial fluid analysis (cell count)**
- ◎ **Lab results (WBC,ESR,CRP)**
- ◎ **Culture results**

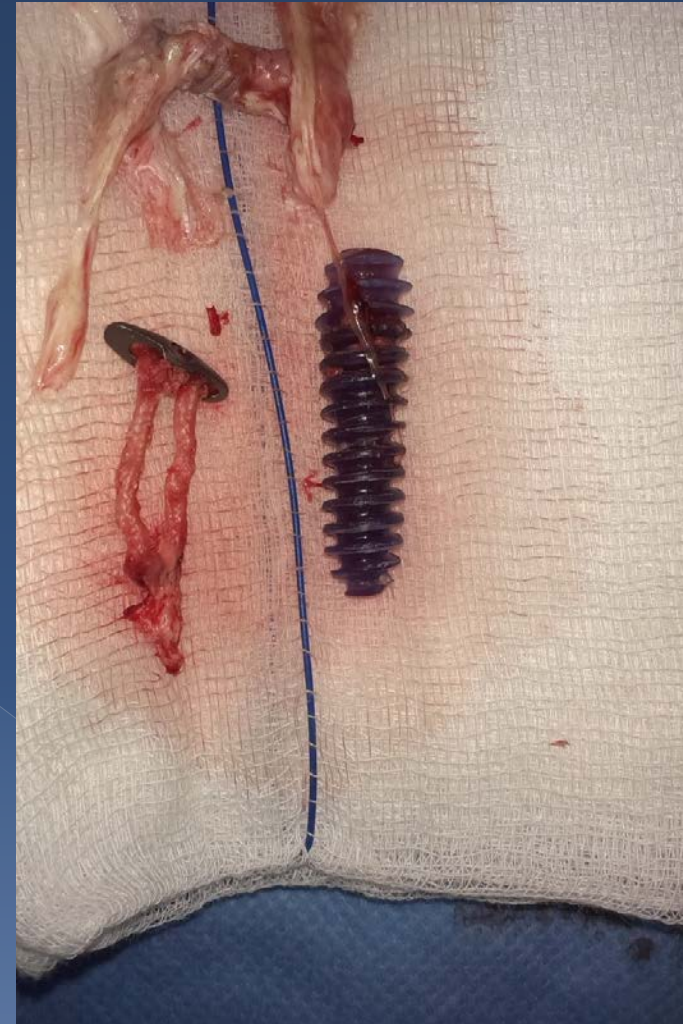
TREATMENT

- ARHTROSCOPIC IRRIGATION & DEBRIDEMENT
- Arthroscopic lavage and thorough debridement
- 6 portals technique-
- Debridement of the posterior compartment
- IV antibiotics as soon as possible (surgery/joint aspiration)

Treatment

Lack of response:
Knee irrigation &
graft hardware removal



ACL Re-implantation at
a later Stage in 4 patients



EVALUATION

- ◉ Clinical examination
- ◉ Lysholm knee score
- ◉ IKDC Form
- ◉ KT 1000 arthrometer
- ◉ Radiological assessment

Results

- 7 /1242 (0.56%)  septic arthritis
- 7/7 male
- 7/7 Fever & Effusion
- 6/7 Co-negative Staphylococcus
- Mean time for development of infection:14 days  Range (6-23)

Results

- ❖ 6 /7 cases (85%) recurrence of infection after arthroscopic debridement
- ❖ 1/7 graft retention
- ⦿ 7/7 full range of motion
- ⦿ 7/7 Negative x-ray findings of joint space narrowing

4 / 6 graft re-implantation at an average 5.5 months (4-9) after infection

| Patient | Lysholm | IKDC | KT 1000 |
|---------|---------|--------|---------|
| 1 | 86/100 | 87/100 | 1,2 mm |
| 2 | 93/100 | 89/100 | 1 mm |
| 3 | 91/100 | 82/100 | 1,7 mm |
| 4 | 90/100 | 85/100 | 1,6 mm |
| Total | 90/100 | 86/100 | 1.4 mm |

similar to primary ACL reconstruction
Follow-up 4.6 years

Conclusions

- Infection after ACL reconstruction is very rare but devastating complication
- Maintain high index of suspicion
Presentation not always "classic"

FIRST GOAL of our surgical protocol is to protect the articular cartilage **NOT** the graft

- Management of septic arthritis after ACL reconstruction using a specific surgical protocol can provide good and excellent results **similar to primary ACL reconstruction**