

Knee joint infection after anterior cruciate ligament reconstruction: a series of 33 cases among 2822 patients

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Introduction and purpose

Septic arthritis of the knee is a rare complication following anterior cruciate ligament reconstruction (ACLR) and no standardized treatment is available. The aim of our study was to evaluate the prevalence, the causes, the management and the short-term outcome of patients with knee joint infection (KJI) after ACLR.

Methods

We conducted a retrospective descriptive study including all patients with a diagnosis of septic arthritis of the knee after ACLR during a 2 year-period (from November 2010 to October 2012) in 3 major orthopedic units, located in the same metropolitan area and sharing the same infectious disease specialist.

Results

From our consecutive case series of 2822 patients who underwent ACL reconstruction, we identified 33 cases of KJI (incidence rate = 1.1%).

Number of patients	Male/female	Mean age (years)	Antibiotic prophylaxis	Techniques used for ACLR	Mean/median time from ACL to surgical management of infection (days)	Mean time from the date of clinical suspicion of infection to management (days)	Classical signs of local inflammation	Fever	Elevated Protein C-Reactive	Elevated WBC count
33	31/2	30.5	Cefazolin or cefuroxim	DIDT (n = 22) Kenneth Jones (n = 9) Others (n = 2)	26/14	5	All patients	27 patients (81.8%)	All patients (mean value = 146 mg/l)	9 patients (37.5%)

Results of perioperative samples	Bacteria (n = 36)	Number of arthroscopic lavage	First-line antibiotic treatment	Second line antimicrobial agents	Mean duration of treatment	Mean Duration of follow-up (months)	Evolution
Sterile (n = 3) Monomicrobial (n = 26) Polymicrobial (n = 4)	<i>S. aureus</i> (n = 11) (30.6%) CoNS (n = 13) (36%) <i>S. lugdunensis</i> (n = 5) (13.9%) <i>Enterobacteriaceae</i> (n = 6) (16.7%) <i>P. acnes</i> (n = 4) (11.1%) <i>P. aeruginosa</i> (n = 2) (5.6%)	One (n = 28) Two (n = 3) Three (n = 1)	Vancomycin (n = 11) Antistaphylococcal penicillin (n = 10)	Levofloxacin + Rifampin (n = 13)	6 weeks (4 to 8 weeks)	18	All patients cured (one after material removal) except one (chronic osteomyelitis)

Conclusions To our knowledge this is the largest reported series of infection after ACLR. The incidence was close to 1%. The great majority of infections occurred in the month following surgery and was due to staphylococci (with an unexpected frequency of *S. lugdunensis*). A conservative strategy consisting in arthroscopic lavage and 6 weeks of antibiotic treatment was effective. A more prolonged follow-up period is required to determine the long-term functional outcome.