

2666

Is conventional antibioprophylaxis associated with increased infection rates in oncologic orthopaedics?

Robin Evrard¹, Sophie Mercier¹, Christine Detrembleur², Pierre-Louis Docquier¹, Thomas Schubert¹

¹Cliniques Universitaires Saint-Luc, Service D'Orthopédie et de Traumatologie de l'Appareil Locomoteur, Brussels - Belgium,

²Université Catholique de Louvain, Secteur des Sciences de la Santé, Institut de Recherche Expérimentale et Clinique, Neuro Musculo Skeletal Lab (NMSK), Brussels - Belgium

Introduction: In oncological orthopaedics, limb salvage surgeries are associated with high risks of infection. Although crucial, the choice of antibioprophylaxis remains controversial and recommendations are scarce. In this retrospective study, we sought to identify risk factors and demonstrate that a conventional antibioprophylaxis as recommended for arthroplasty did not increase the incidence of infection.

Material & Method: Between 2008-2018, we identified 136 patients with a bone tumor who were reconstructed with megaprosthesis or massive bone allograft. Regardless of location or resection type, the antibioprophylaxis protocol was: 2g Cefazolin at the induction of anesthesia, every 3 hours intraoperatively and then 1g at +8h and +16h after the procedure, as recommended for arthroplasty. Risk of infection was analysed by logistic regression for age, location, superficial skin infection, deep infection, revision, cause of revision, operating time, transfusion, intensive care unit stay, use of chemotherapy and/or radiotherapy.

Results: Using this antibioprophylaxis regimen, 13 of the 136 patients contracted a deep infection. Soft tissue necrosis or skin infection is significantly associated with a deep infection. Revision represents a risk of infection; the cause of revision does not influence the infection rate except primary infection. However, use of chemo/radiotherapy does not influence the rate of infection.

Compared to studies using heavier antibiotic prophylaxis (e. g. vancomycin/gentamycin regimens) and according to a systematic review, we observed similar infection rate with this antibioprophylaxis protocol.

Conclusion: Standard antibioprophylaxis with cefazolin is cost-effective with fewer risks/ potential adverse effects that may be encountered with heavier antibioprophylaxis widely used in oncologic orthopedic procedures.