

Routine Culture of Soft Tissue Allografts in Knee Surgery; Do Positive Results Correlate with Clinical Infection?

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Summary:

Routine intraoperative culture of allograft tissue before implantation in knee ligamentous reconstruction surgery is commonly done by many surgeons. However, positive intraoperative cultures do not show correlation with clinical infection

Abstract:

Introduction: Several infections and deaths associated with allograft tissue in knee reconstructive surgery have led many surgeons to consider routine intraoperative culture of allograft tissue before implantation. However, its usefulness and correlation with clinical infection has not been completely established.

Objective: Determine the incidence of positive soft tissue allograft cultures in reconstructive knee surgery, and evaluate possible correlation with clinical infection.

Materials and methods: Retrospective study of a series of patients that underwent knee reconstructive ligament surgery with at least one allograft between January 2012 and July 2015. Intraoperative culture results were obtained and clinical signs of infection were recorded 1-3 days after surgery and monthly during the first 6 months. Patients with less than 6 months follow up and without cultures were excluded. Correlation between positive results of cultures and clinical infection was performed with Fishers exact Test ($p < 0.05$).

Results: Three-hundred allografts were implanted in 202 patients. Sixteen cultures (5.3%) were positive in 16 patients. The most frequently isolated organism was *Bacillus* spp (6 cultures); None of these patients presented clinical signs of infection. Eight patients had superficial wound infections treated with oral antibiotics and one septic arthritis required surgical debridement of the implanted graft; All of these 9 patients had a negative culture. No correlation between a positive culture and clinical infection was found ($p < 0.05$).

Conclusion: The incidence of positive soft tissue allograft cultures in reconstructive knee surgery is low, and does not correlate with clinical infection.