Effect of a single prophylactic pre-operative oral antibiotic dose on surgical site infection following complex dermatologic procedures on the nose and ear: a prospective, randomized, controlled, double-blinded trial

Background: With limited published research studying the effect of antibiotic prophylaxis on surgical site infection (SSI) in dermatologic surgery there is no consensus for its use in higher risk cases.

Objective: The aim of this prospective double-blinded, randomized, placebo-controlled trial was to determine whether a single oral pre-operative antibiotic dose would significantly reduce SSI following flap and graft dermatologic closures on the nose and ear.

Methods: 154 eligible participants in a primary care skin cancer clinic in North Queensland, Australia were randomized to 2g oral cephalexin or placebo 40-60 minutes prior to skin incision.

Results: Overall 8/69 (11.6%) controls and 1/73 (1.4%) in the intervention group developed SSI (P=0.015; absolute SSI reduction 10.2%; NNT for benefit 9.8, 95% CI 5.5, 45.5). In males 7/ 44 controls 0/33 in the intervention group developed SSI (P=0.018; absolute SSI reduction 15.9%; NNT for benefit 6.3, 95% CI 3.8, 19.2). SSI was much lower in female controls (1/25) and antibiotic prophylaxis did not further reduce this (P=1.0). There was no difference between the study groups in adverse symptoms attributable to high dose antibiotic administration (P=0.871)

Conclusion: A single oral 2g dose of cephalexin given before complex skin closure on the nose and ear reduced SSI.

Biography

Having completed general practice training in the UK Dr Helena Rosengren immigrated to Australia in 1994. She has worked as an accomplished skin cancer doctor in Townsville for more than a decade establishing the Skin Repair Skin Cancer Clinic in 2009. As a fellow of the Skin Cancer College of Australasia, she is sent many referrals from fellow GPs undertaking complex skin cancer surgery with meticulous attention to cosmetic results. Passionate about teaching and research, Dr Rosengren is a senior lecturer at James Cook University, has published several research papers in medical journals and teaches at skin cancer workshops for GPs all over Australia.

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