

eP039

ePoster Viewing

Post-surgical and implant infections: from head to knee

RISK FACTORS AND SURGICAL SITE INFECTION RATES RELATED TO CRANIOTOMY IN A TERTIARY CARE UNIVERSITY HOSPITAL. A PROSPECTIVE SURVEILLANCE PROGRAM

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Objectives: To describe risk factors and surgical site infection (SSI) rates after craniotomy at Bellvitge University Hospital, given the limited information related to this issue.

Methods: A prospective surveillance of SSI after craniotomy was performed in a 700-bed tertiary care university teaching hospital in Barcelona area, Spain. The study included all patients admitted for elective or urgent craniotomy from October 2012 to September 2013. All craniotomies had been followed within 30 days from the surgery or for 1 year if an implant was inserted. Centers for Disease Control (CDC) definitions for SSI were used. Prosthetic implants included plates and screws for cranial osteosynthesis. The Chi-squared or the Fisher exact tests were used to compare categorical data and the *t*-Student or Mann-Whitney *U*-test for continuous data as appropriate.

Results: In 217 patients a craniotomy was performed during the surveillance period, 52.5% were women with median age of 52 y (range 18-82). One hundred and fifty-three (70.5%) underwent an elective surgery and 64 (29.5%) urgent. An implant to fix craniotomy was required in 196 (90%) patients. A total of 22 patients acquired a SSI, accounting to a SSI rate of 10.1% (CI95% 5.8-14.4), 17 (73%) were organ/space and 5 (27%) deep incisional. Among the 22 patients, 14 (64%) required readmission. Comparison between patients with and without SSI did not show differences in age, sex, type of surgery (elective or urgent), implant insertion, operation duration, adequacy of antimicrobial prophylaxis and ASA score. The SSI rates vary depending on the reason for neurosurgery: Meningioma (8/44; 18.2%), cerebral aneurysm (7/55, 12.7%), tumours (7/97; 7.2%), haematoma (0/10; 0%) and epilepsy (0/11; 0%). The most common causative bacteria was *Propionibacterium* spp (n=9/22; 41%) followed by Coagulase-negative *staphylococcus* (n=8/22; 36%) and gram-negative bacilli (n=6/22; 27%). Five out of 22 episodes were polymicrobial.

Conclusions: The implementation of a SSI surveillance program has allowed us to determine SSI rates and risk factors associated to craniotomy. These rates vary depending on the reason for surgery. The most common causative agents were *Propionibacterium* spp and Coagulase-negative *staphylococcus*. The results have let to create a multidisciplinary working team for the development of specific measures to improve prevention.