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ePoster Viewing
Post-surgical and implant infections: from head to knee

SSI AFTER HIP OR KNEE ARTHROPLASTY: A FRENCH COHORT STUDY USING HOSPITAL DISCHARGE DATABASE, 2008-2012

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Introduction:

Surgical site infections surveillance (SSIS) represents a key method of nosocomial infection control programs. One key target of SSIS is hip or knee arthroplasty infections (HKAI), leading to heavy medical consequences even if rare. Usual SSIS for such low risk surgery are based on non exhaustive limited studies without long-term follow-up. This study aims to use the exhaustive French hospital discharge database (HDD) as a novel additional tool to survey HKAI and study outcomes and risk factors.

Methods:

A retrospective cohort study of HKA was built in one French region, using HDD 2008-2011: stays with HKA code associated with the corresponding prosthetic material were tagged. Using the anonymous linkage, stays were matched with patients. HKAI occurrence was then tracked in the follow-up (minimal duration 1 year), based on a validated algorithm using ICD-10 codes and surgical procedures coded in the hospital discharge resumes. This HKAI algorithm was previously assessed by checking 1,000 medical charts as the gold standard in 23 hospitals of the same region in 2008-2010 (Se 97%, Spe 95%, PPV 87%, NPV 98%). HKAI incidence was estimated and risk factors and outcomes were analyzed using a survival model (Cox regression).

Results:

In the period, 34,173 patients underwent HKA, corresponding to 2% of the hospital inpatients, each year in the region. Sex ratio M/F was 0.67, median age 74 years (19-110 y), significantly lower in males (69.8, CI 95% 69.6-70.0 vs. 73.9, CI 95% 73.7-74.0 in females). A comorbitidy was coded for 34% of patients. HKAI were identified for 471 patients from 2008 to 2012, giving an HKAI frequency of 1.38%. HKAI occurred in 196 (42%) during the first 30 days but 112 (24%) appeared after one year. The HKAI incidence was 1.05/100 HKA person-years. 54% of HKAI patients were female (SR M/F 0.85). The mean age was 73.4 years CI95% 72.3-74.4, significantly lower in males (69.8, CI 69.6-70.0 vs. 73.9, CI 95% 73.7-74.0 among female). One third of HKAI patient had a microorganism coded (45% *Staphylococcus sp.*) and 33% had at least one comorbidity ; 4.6% died.

Discussion:
The NHDD, a permanent and exhaustive medico-administrative database in France, seems to be an effective and inexpensive tool for epidemiologic studies and evaluation. In this preliminary analysis, the HDD long-term follow-up showed a large proportion of HKAI occurring more than 1 year after joint replacement.