Background. Surgical site infections (SSI) are one of the most common health-care-associated infections contributing to high economic burden. Around 658,000 total joint arthroplasties (TJA) are performed annually in the United States, estimated 0.9–2.5% develop surgical site infection. Despite following prevention guidelines, SSI continues to occur. The aim of our study was to identify perioperative risk factors for SSI in patients undergoing TJA.

Methods. A retrospective cohort study was performed of patients at the Detroit Medical Center from 2011 to 2015. All adult patients undergoing primary or revision total knee or hip joint arthroplasty were included. Patients were divided into SSI (prothetic infection) or non-SSI group. Baseline characteristics, perioperative variables influencing SSI were assessed. Statistical analysis was performed using SAS software. Continuous variables were compared using Wilcoxon–Rank-sum test and categorical variables using Fischer’s exact test.

Results. Among 2355 included patients, 1203 had knee arthroplasties (53%), 1052 had hip arthroplasties (47%) and SSI occurred in 46 patients (2%). Overall, mean age was 58.8 ± 11 years; 64% were females, 57% were African American, and 41% were smokers. Diabetes did not increase risk for SSI (37% with vs. 26% without SSI; P = 0.09). Administration of general anesthesia, American Society of Anesthesiologists score of ≥2, the presence of hypothermia and hyperglycemia did not statistically increase the risk for SSI. Patients with recent respiratory tract infection in previous 30 days prior to surgery were more likely to develop infection compared with patients with no infection in previous 30 days (OR 0.69, 95% CI 0.50–0.94). Associations between condom use and main exposure were significant (OR 0.69, 95% CI 0.50–0.94). Associations between condom use and main exposure were significant (OR 0.69, 95% CI 0.50–0.94).

Conclusion. In this study, recent respiratory tract infection in 30 days prior to surgery and additional surgeries within 90 days after arthroplasty increased risk for SSI. Careful preoperative assessment and sufficient time to postoperative recovery is essential to reduce SSI. Further multicenter studies are needed to validate our findings.

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230. Clinical Features and Treatment Outcomes of Bone-Joint Infection Between Bacteria and Mycobacterium Tuberculosis

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Background. Bone-joint infection is an emergency condition that requires immediate management. Delayed in treatment or improper management can lead to a significant morbidity and mortality.

Methods. The medical records of patients with bone-joint infection seen at Maharaj Nakorn Chiang Mai Hospital between 1 November 2010 and 30 September 2015 were reviewed. The diagnosis of bone-joint infection was confirmed by pathogen identification or pathological report. Only those with adequate clinical features and treatment outcomes were included for analysis.

Results. Of 125 bone-joint infected patients seen during the study period, 92 patients were caused by bacterial infection and 33 from tuberculous infection. Their mean age was 55.3 ± 17.7 years, and had total disease duration of 7.1 ± 8.2 months. Sixty-four percent were men. Of 33 TB cases, 24 (72.7%) had spinal involvement. Among 92 cases with bacterial infection, 52 (56.5%) had non-spinal joint involvement, and 38 (41.3%) had non-spinal bone involvement. Regarding clinical features, TB cases had mean duration of symptom of 5.3 ± 6.1 months. Multivariate logistic regression analyses showed that neurological manifestations (adjusted OR = 31.4, 95% CI 14.4–6831, P = 0.0034) and CRP < 70 mg/l (AOR = 4.7, 95% CI 1.1–19.9, P = 0.039) were risk factors for TB bone-joint infection. There were 120 (96.0%) patients with clinical improvement, and five (4.0%) died patients. There were no significant differences among them and NG (0.10%) among Chinese applicants for U.S. immigration. The highest positive detection rate of CT was observed in the age group of 25–29 years (24/344, 6.98%) among males, while in a slightly younger age group of 20–24 years (34/524, 6.49%) among females (Figure 1). Of the 10,510 applicants who completed the detection of NG, 10 (0.10%) were NG positive.

Conclusion. The detection rate of NG in males and females was 0.11 and 0.08%, respectively (Table 1).

Table 1. The positive rate of the detection of CT and NG

| Item     | Gender | Positive number | Positive rate (95% CI) (%) |
|----------|--------|-----------------|---------------------------|
| CT       | Male   | (n = 4606)      | 124                        | 2.69 (2.22–3.16)               |
|          | Female | (n = 5906)      | 245                        | 4.15 (3.64–4.66)               |
|          | Total  | (n = 10,512)    | 369                        | 3.51 (3.16–3.86)               |
| NG       | Male   | (n = 4606)      | 5                          | 0.11 (0.01–0.20)               |
|          | Female | (n = 5904)      | 5                          | 0.08 (0.00–0.16)               |
|          | Total  | (n = 10,510)    | 10                         | 0.10 (0.04–0.15)               |

CT: chlamydia trachomatis; NG: neisseria gonorrhoeae; CI: confidence interval.

232. The Detection Rates of Urogenital Chlamydia trachomatis and Neisseria gonorrhoeae in Chinese Population Applying for U.S. Immigration

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Background. Medical screening for gonorrhea is under the mandatory requirements of the Center for Disease Control and Prevention for aliens applying for U.S. immigration. Gonorrhea is frequently associated with Chlamydia trachomatis (CT) infection. There is limited data on the detection rates of urogenital CT and Neisseria gonorrhoeae (NG) in Chinese population.

Methods. Data on physical examinations of applicants in Guangdong International Travel Health Care Center, China were collected and retrospectively analyzed. The nucleic acids of urogenital CT and NG from urine specimens were detected by fluorescent probe PCR using cobas 4800 CT/NG Amplification Detection Kit (Roche Molecular Systems, Inc.). The detection rates of CT and NG among the overall population were assessed. In addition, the detection rates of CT by age and gender were also evaluated.

Results. In total, 10,549 applicants underwent physical examinations from September 2016 to March 2017. Mean (SD) age was 41.4 (15.6) years, ranging from 15 to 90 years. The proportion of females (56.1%) was higher than that of males (43.8%). Of the 10,512 people who completed the detection of CT, 369 (3.51%) were CT-positive. The detection rate of CT was significantly higher in females (4.15%) than males (2.69%) (Table 1). The highest CT-positive rate was observed in the age group of 25–29 years (24/344, 6.98%) among males, while in a slightly younger age group of 20–24 years (34/524, 6.49%) among females (Figure 1). Of the 10,510 applicants who completed the detection of NG, 10 (0.10%) were NG positive. The detection rate of NG in males and females was 0.11 and 0.08%, respectively (Table 1).

Conclusion. Our study first reported the detection rates of urogenital CT (3.51%) and NG (0.10%) among Chinese applicants for U.S. immigration. The highest positive rate of CT was observed among young and middle-aged people, which should gain more attention.