

**P1142**

**Paper Poster Session**  
**Surgical site infection**

**Epidemiology of surgical site infection following breast reconstructive surgery**

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**Background:** In Israel, as of 2014, about 25% of women underwent breast reconstruction following mastectomy. The reported surgical site infection (SSI) rate after these operations is high at approximately 20%, and SSIs could lead to a longer hospital stays, re-operation and in rare cases cause permanent disability or even death. Moreover, SSI poses an economic burden on patients, healthcare facilities, and the general public. Comprehensive analyses of SSI epidemiology could aid in effectively allocating preventive resources in order to reduce SSI among women with breast cancer and improve the results of reconstruction. The aims of this study were to (1) Evaluate the rate of SSI among women who underwent breast reconstruction at Assaf Harofeh Medical Centre (AHMC), and (2) analyze risk factors for and outcomes associated with SSI.

**Material/methods:** Retrospective case-control (risk factors) and cohort studies (outcomes) were conducted at AHMC for the calendar years 2011-2013. All available records of patients who underwent breast reconstruction surgery were reviewed and patients were contacted via phone. Univariable and multivariable analyses were conducted according to established methodology and criteria.

**Results:** Out of 241 patients, 103 women met the inclusion criteria and were enrolled in the study. Among this group, the rate of SSI was 22.3% (i.e. 23 out of 103 patients). The most common isolated pathogen was *Pseudomonas aeruginosa* (41.7%). One patient died within 30 days and four patients (3.9%) died within one year, but none of these patients developed SSI. Many factors were associated with SSI in the univariable analysis, but independent predictors per the multivariable analysis included; radiotherapy in the previous three months (OR=5.1, p=0.016), inappropriate antimicrobial prophylaxis at the time of surgery (OR=0.15, p=0.003) and non-implant reconstruction (OR=0.38, p=0.008).

**Conclusions:** This is a comprehensive analysis of the epidemiology of SSI among patients who underwent breast reconstruction surgery at AHMC. Current SSI rates resembled the upper limit of rates reported in the literature in the past. However, in this study, surveillance was more extensive, and enabled us to also capture superficial SSIs (as patients were contacted via phone). Independent predictors of SSI were; recent radiotherapy and non-adherence to current surgical antibiotic prophylaxis guidelines. Further epidemiological analyses, on larger cohorts and for prolonged periods of time, will aid in allocating resources for prevention or reduction in SSI rates among patients with breast cancer who undergo breast reconstruction surgery following mastectomy.