Compliance with 10 best practices for surgical site infection (SSI) prevention among 592 SSIs analyzed during SSI investigations generated through statistical process control surveillance.

**Conclusion.** SPC methods more frequently detected important SSI rate increases among patients at risk for SSI than more traditional surveillance; however, feedback of this information did not lead to SSI rate reductions. Further study is indicated to determine the best application of SPC methods to improve adherence to SSI quality measures and prevent SSIs.

**Disclosures.** Arthur W. Baker, MD, MPH; Medincell (Advisor or Review Panel member); Susan S. Huang, MD, MPH; Medline (Other Financial or Material Support, Conducted studies in which participating hospitals and nursing homes received contributed antiseptic and cleaning products); Molnycke (Other Financial or Material Support, Conducted studies in which participating hospitals and nursing homes received contributed antiseptic and cleaning products); Stryker (Sage) (Other Financial or Material Support, Conducted studies in which participating hospitals and nursing homes received contributed antiseptic and cleaning products); Xtrium (Other Financial or Material Support, Conducted studies in which participating hospitals and nursing homes received contributed antiseptic and cleaning products)

### Table 3

| Best Practice for SSI Prevention | Compliance with Best Practice, n/N (%) |
|----------------------------------|---------------------------------------|
| Choice of prophylactic antibiotic(s) | 49/50 (98%) |
| Timing of prophylactic antibiotic(s) | 49/50 (98%) |
| Weight-based dose of prophylactic antibiotic(s) | 49/50 (98%) |
| Skin antisepsis with appropriate agent | 49/50 (98%) |
| Maintenance of perioperative normothermia | 37/50 (74%) |
| Operative and postoperative supplemental oxygen | 77/125 (61%) |
| Postoperative glucose monitoring and control | 32/50 (64%) |
| Use of SSI prevention checklist | 15/50 (30%) |
| Prophylactic oral antibiotics and mechanical bowel preparation | 28/217 (13%) |
| Procedures with at least 1 best practice deficiency | 49/50 (98%) |
| Procedures with 2 or more best practice deficiencies | 4/50 (8%) |

**Analyst** for surgeons requiring re-doing based on surgery duration and antibiotic choice.

**Analyst** for surgeons requiring general anesthesia and mechanical intubation.

**Analyst** for colorectal surgery only.

94. Infectious Complications of Left Ventricular Assist Devices

Courtney Harris, MD; Lara Coakley, CNP; Mandeep R. Mehra, MD; Hari R. Mallidi, MD; Lindsey R. Baden, MD; Ann E. Woolley, MD, MPH; Brigham and Women’s Hospital, Boston, MA

**Session:** O-20. Infection Risks from Invasive Procedures

**Background.** Left ventricular assist devices (VAD) have significantly increased survival for patients with advanced heart failure. With advances in device technology and the past 10 years have improved thrombotic and bleeding complications, infection remains a significant cause of morbidity and mortality. We assessed the incidence and risk factors of VAD infections at our institution.

**Methods.** A single center, retrospective study of patients who had VAD implanted between January 2007 and December 2020 was performed. Patients with concurrent right sided mechanical circulatory support devices were excluded. Patient demographics, clinical characteristics, labs, microbiology data, and antimicrobials were obtained from the electronic medical records. Clinical outcomes were adjudicated by 2 independent physicians. VAD infections were classified using the ISHLT 2011 guidelines.

**Results.** 241 patients had durable VAD implanted in this 14-year period, with a median time of 3 years follow-up. 134 (56%) patients had a clinically significant infection; 42 (31.3%) were VAD specific infections, 42 (31.3%) were VAD related, and 50 (37.4%) were non-VAD related. 95% of VAD specific infections were driveline site infections. 98% of patients with VAD related infections had a concurrent blood stream infection. Of the 50 non-VAD infections, 72% involved either a lower respiratory, urinary tract, or Clostridium difficile infection. Median time from VAD implantation to infection was 5 months. 44 (32.8%) had their first infection during the index hospitalization, of which 27 (61.4%) were non-VAD infections. 78 (58.2%) had one infection, compared with 38 (28.4%) who had two or more infections. 17 (12.7%) had recurrence of their initial infection and 6 (35%) occurred despite being on suppressive antibiotics. 48 of 134 (36%) infected patients were transplanted. 57 of 134 (42.5%) died compared to 33 of 107 (31%) without an infection.

**Conclusion.** More than half of VAD patients at our center during a 14-year time period had an infectious complication and higher mortality rate compared to those without an infectious complication. Further studies are needed to assess the immunologic risk factors for the increased risk of non-device associated infections in VAD patients.

**Disclosures.** Mandeep R. Mehra, MD; Abbott (Consultant); Baim Institute for Clinical Research (Consultant); FineHeart (Consultant); NupulseCV (Consultant); Ann E. Woolley, MD, MPH; COVAX (Consultant)

95. Impact of Penetrating Trauma on Surgical Site Infection Standardized Infection Ratio (SIR) for Colon Procedures

Kellely M. Boston, MPH; CIC; CPHQ; FAPIC; Misti Ellsworth, DO; Jocelyn Thomas, MPH, CIC; CSSGB; Tawanna A. McNinns-Cole, MS, BSN, RN, CIC; Luis Ostrosky-Zeichner, MD; Infection Prevention & Management Associates, Houston, TX; Memorial Hermann, Houston, Texas; Memorial Hermann Healthcare System, Houston, TX; University of Texas Health Science Center, Houston, Texas

**Session:** O-20. Infection Risks from Invasive Procedures

**Background.** Coloanal surgery (COLO) is one of the focus areas for the Centers for Medicare and Medicaid Services (CMS) Hospital Inpatient Quality Reporting (IQR) Program. Standardized criteria from the National Healthcare Surveillance Network (NHSN) are used to define surgical site infections (SSI) and to assess and weight standardized risk variables, so that all organizations can be judged to the same standard. Performance is compared through use of a standardized infection ratio (SIR), which is the observed number of infections, divided by the "predicted" number of infections, given the number and type of surgeries performed.

**Methods.** A retrospective review of medical records and NHSN documentation was conducted for 778 COLO procedures that were performed at a large academic and level 1 trauma center between January 2019 and December 2020. Initial review of the data showed that the increases in SIR were primarily concentrated in trauma patients with intestinal injury and fecal spillage. SIR for adult procedures were calculated using the NHSN Complex 30-Day SSI Data for IQR Report model, which the metric used by the CMS IQR. The CDC NHSN Statistics Calculator was used to compare SIR for

*Table 1: Patient Demographic and Characteristics of VAD patients with and without infection*

| Characteristic | Infection, n=134 | No Infection, n=107 |
|----------------|-----------------|---------------------|
| Age (Median, range, years) | 59 (25-76) | 58 (18-73) |
| Sex | Male 111 (82.6%) | 87 (81.3%) |
| Race | White non-Hispanic 113 (84.3%) | 90 (84.1%) |
| Black non-Hispanic 31 (23.2%) | 13 (12.1%) |
| Asian non-Hispanic 6 (3.2%) | 5 (4.7%) |
| Hispanic 7 (5.3%) | 1 (0.9%) |
| Smoking | Current 6 (4.5%) | 3 (2.8%) |
| Former 72 (53.7%) | 59 (55.1%) |
| Never 56 (41.8%) | 45 (42.1%) |
| Diabetes | 55 (51.4%) | 37 (37.4%) |
| CKD stage 3 41 (30.6%) | 27 (25.2%) |
| HTN (pre-VAD) 81 (60.4%) | 62 (57.9%) |
| BMI (Median) | 28.8 | 28.6 |
| Etiology of LV Failure | | |
| CABG 52 (38.1%) | 34 (31.8%) |
| NICM 6 (4.5%) | 7 (6.7%) |
| Bridge to decision 9 (6.7%) | 8 (7.5%) |
| Type of VAD | | |
| HeartMate II 82 (61.2%) | 51 (47.7%) |
| HeartMate III 32 (23.9%) | 37 (34.6%) |
| HeartWare 20 (14.9%) | 19 (17.7%) |
| Length of index hospitalization, (days, median) | 24 | 24 |

**Conclusion.** Colon surgery (COLO) is one of the focus areas for the Centers for Medicare and Medicaid Services (CMS) Hospital Inpatient Quality Reporting (IQR) Program. Standardized criteria from the National Healthcare Surveillance Network (NHSN) are used to define surgical site infections (SSI) and to assess and weight standardized risk variables, so that all organizations can be judged to the same standard. Performance is compared through use of a standardized infection ratio (SIR), which is the observed number of infections, divided by the "predicted" number of infections, given the number and type of surgeries performed.