Hanadi Al Salmi, J Infect Dis Ther 2017, 5:7(Suppl)
DOI: 10.4172/2332-0877-C1-035

Infection control measures to reduce surgical site infections after coronary artery bypass grafting

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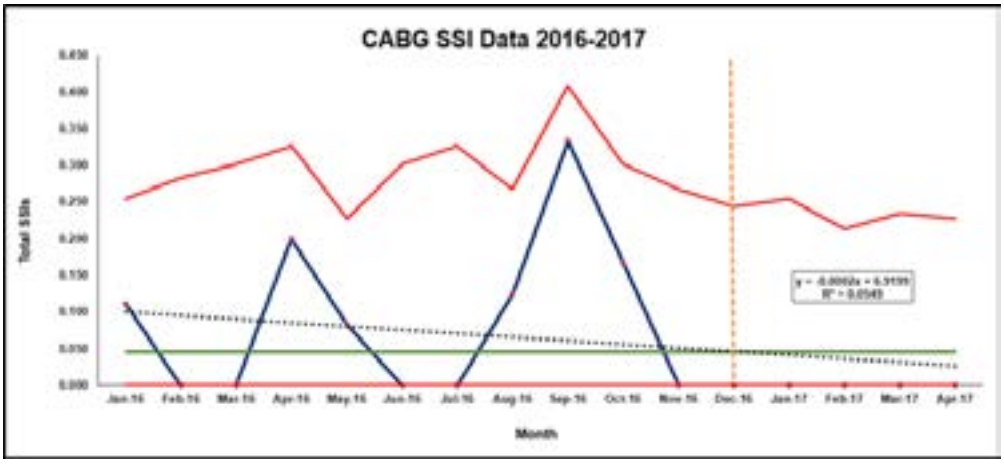
Background: Surgical site infection (SSI) is a preventable and devastating complication of cardiac surgery that is associated with significant morbidity. Unfortunately, the reported SSI rate at our centre in 2014-2015 ranged from 2.6% to 8.2%; this is above the standardized rate recommended by the National Healthcare Safety Network.

Method: An improvement project team was formed in late 2016 to address the rate of SSI in our centre. In this study, we sought to identify risk factors of CABG SSI by using evidence-based practices in addition to a local approach to solve the problem. We performed a root-cause analysis to identify areas for potential improvement. Data collected included a process map of the pre-operative, intra-operative, and post-operative factors that might contribute to SSI risk. In addition, we collected data on patient-related factors, hygiene practice in the operating room, operating room traffic, and compliance to the SSI bundle of care. We used the DMAIC (Define, Measure, Analyze, Improve, and Control) method to improve our CABG-SSI rate. The root cause analysis identified significant weaknesses in the compliance to the bundle of care of SSI prevention, including: High blood glucose (Pre, Intra and Post-operative in patients with diabetes and those without it). Normothermia was not maintained (Pre, Intra and Post-operative). Noncompliance with chlorhexidine gluconate pre-operative shower. Noncompliance with the timely administration of the first and second dose of pre-operative antibiotics and noncompliance with the appropriate dosing for pre-operative antibiotics

Results: Improvement in compliance with the above noted gaps resulted in a decreased incidence of SSI among patients with post-coronary artery bypass grafting for 5 consecutive months.

Conclusion: CABG SSI is a preventable complication. Using evidence-based practice and structured problem solving may potentially identify risk factors. Focusing on solving the right patient process and visually representing the problem will help in identifying the potential solutions, improving quality-of-care, and reducing cost.



Biography

Hanadi Al Salmi is an Assistant Director of Infection Control and Environment Health at King Faisal Specialist Hospital and Research Center. Responsible for assisting the Director, Infection Control & Hospital Epidemiology ensures compliance with environmental standards related to Joint Commission, International Accreditation (JCIA), and American Institute of Architecture (AIA) for Hospital and healthcare facilities, OSHA, and other regional and other regional and internationally recognized bodies

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