

5<sup>th</sup> World Congress on **NEONATOLOGY AND PEDIATRICS**  
&  
World Congress on **NURSING RESEARCH AND EVIDENCE BASED PRACTICE**

February 25-26, 2019 | London, UK



## *Diane Baruch*

New York Presbyterian Hospital, USA

### **Effects of glycemic control, graft choice, BMI, and diabetes on the development of sternal wound infections in cardiac surgical patients**

**Background:** A complication of cardiac surgery, the sternal wound infection (SWI) rate in our organization has risen in three years to twice the state benchmark. The internal mammary arteries are routinely used in our institution for its long-term patient survival benefit, which can increase SWI risk. The biochemical effect of stress hyperglycemia in critically ill patients is a contributing factor to the development of infection. Glycemic control reduces infection risk by avoiding the body's metabolic syndrome. The purpose of this study was to determine if there is a difference in glycemic index, graft choice, BMI and diabetes in cardiac surgery patients who have developed SWI and those who did not.

**Methodology:** Our longitudinal study was a retrospective medical record review conducted in an academic medical center. 130 cardiac surgery patients developing a SWI were matched with 130 patients who did not. Regression analysis compared differences in glycemic index, graft choice, BMI, and diabetes.

**Results:** The majority of the sample were male (61%) white (62%), and obese (52%); 76% underwent a coronary artery bypass graft procedure. Patients were 2.8 times more likely to develop a SWI ( $p < .001$ ) when their mean blood glucose on the day of surgery was above 160 mg/dl. Mean blood glucose on post-operative day #1 ( $p = .70$ ) and #2 ( $p = 1.00$ ) were not significant. No differences were found in the relationship of graft choice and SWI ( $p = .61$ ). Females were two times more likely to develop a SWI than males ( $p = .02$ ). 72% of the sample with a BMI of 30 and above developed a SWI ( $p = < .001$ ). There was no difference ( $p = .19$ ) in the relationship of history of diabetes and SWI.

**Conclusion:** Improved blood glucose management targeting a mean blood glucose below 160 mg/dl on the day of surgery may help prevent SWI.

#### **Biography**

Diane Baruch DNP MBA RN CCRN-K NE-BC is an experienced manager with over thirty years of experience in the fields of cardiac and critical care. She has worked at both Mount Sinai in NYC and Northwell Health on Long Island, and currently works as the Patient Care Director for the cardiothoracic step-down unit and remote telemetry center for New York Presbyterian Hospital in New York City. She recently graduated from George Washington University in Washington, D.C. with her DNP.

[dib9016@nyp.org](mailto:dib9016@nyp.org)