

IMPACT OF A SURGICAL SITE INFECTION BUNDLE ON SURGICAL SITE INFECTION RATES IN CESAREAN DELIVERIES

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Background

Surgical site infections (SSIs) occur in 2-5% of patients undergoing inpatient surgery in the US and are a major cause of increased length of hospital stay and mortality. Cesarean delivery (CD) is the most common US surgical procedure. Our hospital, a public tertiary care academic center, initiated routine surveillance of CD SSIs in 2012, with a quarterly high of 4.96% that year.

Objectives

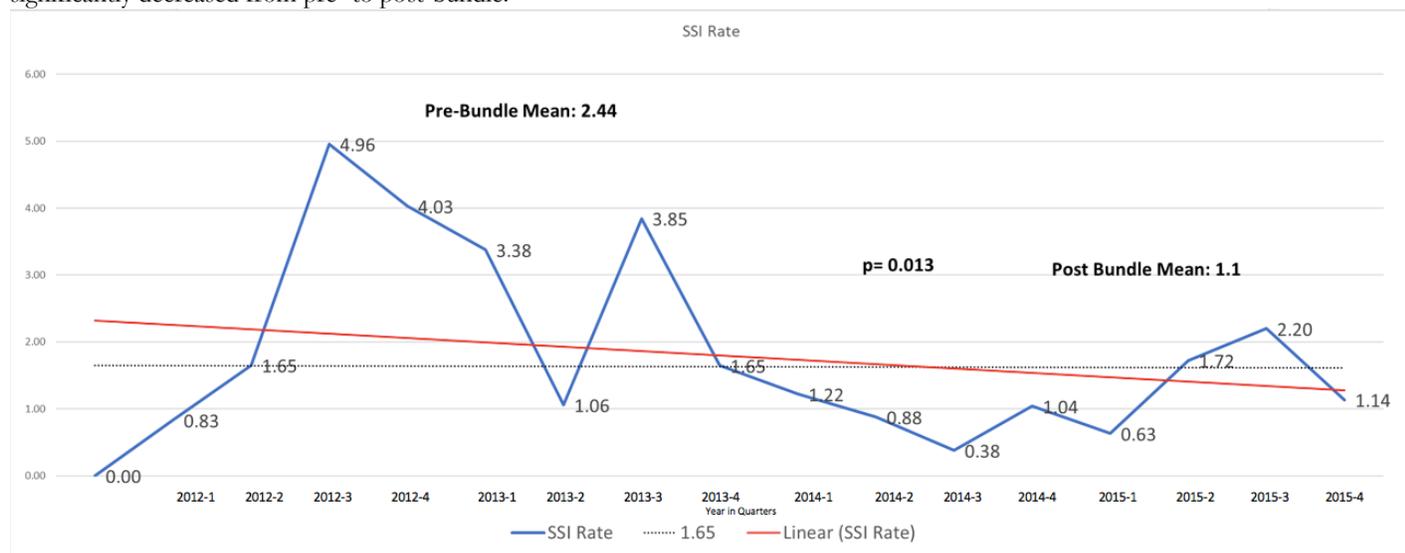
To investigate CD SSI rates before and after implementation of an SSI care bundle.

Methods

In April 2014, our hospital introduced an SSI bundle for cesareans to reduce the SSI rate. The bundle included the following: 1) pre- and post-operative patient education regarding antiseptic skin cleansing, wound care, and glycemic control in diabetics; 2) intraoperative use of antiseptic skin and vaginal preparations, double-gloving, and changing of gloves and instrument tray for fascial closure; 3) antibiotic prophylaxis and 4) follow up nurse phone calls after discharge. Aggregate patient demographics pre- and post-bundle were abstracted from an institutional database and SSI rates were obtained from hospital infection prevention services. Women were included if they had a gestational age of at least 23 0/7 weeks and delivered a liveborn neonate(s) between January 1, 2012 and December 31, 2015.

Results

During the study time period, 4014 total cesareans were performed (2147 pre-bundle, 1867 post-bundle). Demographic data of women undergoing cesarean delivery were similar before and after the infection prevention bundle, with the exception of body mass index, gestational diabetes, history of venous thromboembolism, number of women with prior cesarean(s), and prenatal exposure to drug, alcohol, or tobacco use. The mean SSI rate significantly decreased after the bundle (2.44 to 1.10, $p = 0.013$), see Figure 1. Beginning with January 1, 2013, superficial surgical site infections significantly decreased from pre- to post-bundle.



Discussion

Implementation of an infection prevention bundle led to a significantly decreased SSI rate in our population. While differences in patient demographics of the populations before and after the bundle may have contributed, in general these risk factors were higher in the post-bundle population and therefore are unlikely to have confounded the impact of the infection prevention bundle.