

eP027

ePoster Viewing

Successful reduction of surgical site infections

SURGICAL SITE INFECTION IN CARDIOTHORACIC SURGERY – A SINGLE INTERVENTION SURVEILLANCE STUDY FROM LANCASHIRE CARDIAC CENTRE COMPARING CHLORHEXIDINE-ISOPROPYL ALCOHOL TO IODINE –IPA SKIN PREP:

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Objectives

Continuous Surgical site infection (SSI) surveillance for patients undergoing cardiothoracic surgery is currently voluntary in the UK. In order to standardise surveillance & reduce the incidence of SSIs for patients undergoing cardiothoracic surgery, we established a new comprehensive SSI surveillance system [including post discharge] that included a checklist, HPA defined surveillance data sheet, SSI identification questionnaire for patients, and direct observations. In addition, despite numerous guidance documents recommending 2% chlorhexidine for pre-operative skin preparation, there remains a lack of data comparing different alcoholic based solutions in clean / clean contaminated surgery. This standardised surveillance system was utilised and implemented by the study team to compare ChloroPrep® (2% chlorhexidine/70% isopropyl alcohol) and iodine/ isopropyl alcohol (IPA).

Methods

All patients undergoing cardiothoracic surgery during a 15-week period were included in the standardised SSI surveillance system that was customised for cardiothoracic surgery. For pre-operative skin preparation, for four weeks all patients (Group A) received iodine/isopropyl alcohol (IPA). After the four weeks, all patients (Group B) received ChloroPrep®. All patients were followed for 30 days post-operatively utilising UK Health Protection Agency definitions.

Results

Out of a total of 416 patients, 32 did not adhere to the standardised SSI surveillance system and were excluded. Of the remaining 384 patients, the overall SSI rate was 16.4%. With regards to patient risk factors for SSIs, the mean age was 65.6 years, 15.1% underwent clean-contaminated surgery, the mean BMI was 27.7 kg/m², and the mean duration of operation was 223 minutes. ChloroPrep® was used for 238 patients with a 14.3% SSI rate. Iodine- IPA was used for 146 patients with a 19.9% SSI rate (P=0.1520).

Conclusion

The overall rate of infection rate was 16.4%, -significantly higher than the voluntarily reported rates as published by the Health Protection Agency. These results suggest that, like orthopaedic surgery, SSI surveillance, including 30 day follow up post discharge, for cardiothoracic surgery should be mandatory. ChloroPrep was more effective than iodine-IPA. Absolute and relative risk reductions were 5.6% and 28% respectively. The SSI reduction seen echoes the seminal Darouiche et al, 2010 publication comparing ChloroPrep with aqueous iodine. These results however represent the first study the authors are aware of using an alcohol based comparator in cardiothoracic surgery. A larger study should be conducted to investigate statistical significance.

Skin Prep	SSIs		No SSIs	Total	SSI % rate	P
ChloroPrep	34	204	238	14.3	0.1520	
Alcoholic-Povidone-iodine	29	117	146	19.9		
Total	63	321	384	16.4		