



SURGICAL SITE INFECTIONS-STUDY ON ITS PREVENTION AND MANAGEMENT

General Surgery

Dr Ankur Prakash Senior Resident, General Surgery PMCH, Patna**Dr Indu Bhushan Prasad** Associate Professor, General Surgery, PMCH, Patna

KEYWORDS

INTRODUCTION

Surgical site infections (SSIs) present a significant burden to US health care. It is estimated that there are approximately 300,000 SSIs per year in the United States. This number accounts for 17% of all health care acquired infections (HAIs) and is second only to urinary tract infections as a cause for HAIs in US hospitals [1]. SSIs accounts for 3% of hospital mortalities, and patients with an SSI are at a 2 to 11 times higher risk of death when compared with those without a Surgical site infections. Looking at this differently, 75% of death among patients of surgical site infection are attributable to the Surgical site infection. Additionally patients with Surgical site infections may experience significant long term disability. Those who suffer from Surgical site infections will experience an additional 7 to 10 days hospital length of stay when compared with those without Surgical site infections. By definition Surgical site infection is an infection that develop within 30 days after an operation or within 1 year if an implant was placed and the infection seems to be related to the surgery. It can be commonly prevented by appropriate hair removal, antibiotic prophylaxis, avoidance of hypothermia, perioperative glycaemic control, 2% chlorhexidine in alcohol skin preparation, antiseptic surgical dressing, preoperative bathing of the patient, skin antiseptic for patient, skin preparation like povidone iodine, alcohol or chlorhexidine. Operative team hand scrub procedure, alcohol based antiseptic for preoperative skin preparation are likely to be more effective than aqueous solution. Perioperative oxygen supplementation prevents Surgical site infections. Some factors which may increase risk of Surgical site infections are trauma, shock, hyperglycaemia, recent radiotherapy. The organism most often isolated is staphylococcus aureus.

Surgical Wound Classification Grades (I-IV) as Defined by the CDC**CDC Surgical Wound Classification Definitions**

Class I/Clean: An uninfected operative wound in which no inflammation is encountered, and the respiratory, alimentary, genital, or uninfected urinary tract is not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow no penetrating (blunt) trauma should be included in this category if they meet the criteria.

Class II/Clean-Contaminated: An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in a sterile technique is encountered.

Class III/Contaminated: Open, fresh, accidental wounds. In addition, operations with major breaks in a sterile technique (eg, open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute or no purulent inflammation is encountered are included in this category.

Class IV/Dirty-Infected: Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation.

MATERIALS AND METHODS

Study was done in 210 patients having Surgical site infections in a period from February 2022 to October 2023 in patients of Surgical wards in PMCH Patna. In every patient, comorbidities were identified, risk factors involved were identified, perioperative glucose level monitored, perioperative oxygen therapy was monitored.

RESULT

Patient related factors which were identified to be risk factors for Surgical site infections were current and former smokers, existing infection, low serum albumin concentration, older age, diabetes mellitus, ischaemia due to vascular disease, irradiation. Some factors which may be associated independently with an increased risk of Surgical site infections include abdominal surgery, improper antisepsis, improper perioperative glycaemic control.

CONCLUSION

General principle of Surgical site infections treatment remains control of sources of infections. For superficial Surgical site infections standard treatment remains drainage. Wound care should be done with antiseptic dressing like saline soaked cotton gauze dressing.

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