



## General Surgery

## FACTORS AFFECTING SURGICAL SITE INFECTION IN OPEN GASTROINTESTINAL SURGERY

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| <b>Dr. Neel Bhoi*</b>     | 3 <sup>RD</sup> Year General Surgery Resident B.J. Medical College & Civil Hospital Ahmedabad*Corresponding Author |
| <b>Dr. Nitin M Parmar</b> | Professor & Head Of Unit, Dept Of General Surgery , B.J. Medical College & Civil Hospital Ahmedabad                |
| <b>Dr. Kena Parmar</b>    | 2 <sup>nd</sup> Year General Surgery Resident B.J. Medical College & Civil Hospital Ahmedabad                      |
| <b>Dr. Pankaj Nadoda</b>  | Senior Resident, Dept Of General Surgery , B.J. Medical College & Civil Hospital Ahmedabad                         |

**ABSTRACT** Surgical site infection is more prevalent in open gastrointestinal surgery which will affect hospital stay and morbidity and mortality of patients. In our study, we are comparing the factors which will directly or indirectly causes SSI. By knowing the factors which causing SSI, We can decrease the incidence of surgical site infection.

**KEYWORDS :** Surgical site infection (SSI), Gastrointestinal surgery,

## INTRODUCTION

Surgical site infection (SSI) is defined by the Centers for Disease Control and Prevention as a wound infection that occurs within 30 days of an operative procedure or within a year if an implant is left in place. It is one of the most common health-care-associated infections, occurring following 1%–3% of all surgical procedures. The rates of SSI are much higher with abdominal surgery than with other types of surgery, with several prospective studies indicating an incidence of 15%–25% depending on the level of contamination. Surgical site infection is preventable and is associated with high morbidity and mortality. In addition to the devastating impact on the patient's course of treatment, it is associated with prolonged length of hospital stay and higher costs. Numerous risk factors may contribute to the development of SSI, with the most recognized factors being these incorporated in the Centers for Disease Control and Prevention and National Nosocomial Infections Surveillance System SSI risk index, including wound classification, American Society of Anesthesiologists (ASA) score and duration of the operation.

## AIMS AND OBJECTIVES

- To compare the factors affecting surgical site infection in patients undergoing open gastrointestinal surgery.
- To study the outcomes of surgical site infection in patients undergoing open gastrointestinal surgery

## MATERIALS AND METHODS

After ethical committee grants ethical approval of this study, demographic and clinical details of all patients admitted in our institute between may 2019 and dec 2021 and developed surgical site infection following open gastrointestinal surgery is prospectively entered into database. A review of this data will be performed to document factors affecting surgical site infection and outcome of in terms of hospital stay, ICU admission and deaths.

- Study Design:** Prospective, Interventional.
- Study Site:** Department of General Surgery, BJMC & CHA
- Study Duration:** MAY 2019 to DEC 2021
- Sample size:** 50 patients undergoing open gastrointestinal surgery with surgical site infection and 50 patients undergoing open gastrointestinal surgery without surgical site infection. so, total 100 patients undergoing open gastrointestinal surgery

## DISCUSSION

This study was conducted on 100 patients undergoing open gastrointestinal surgery at civil hospitals and prospectively followed up from operative day to post operative day 30.

## GENDER:

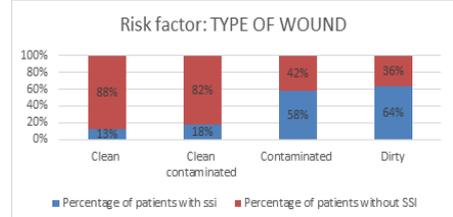
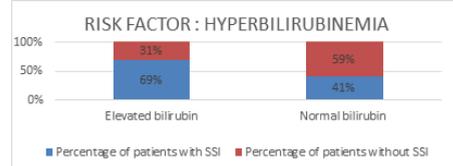
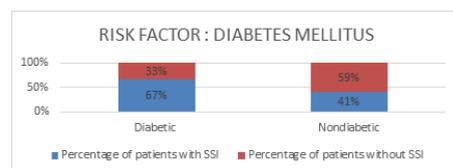
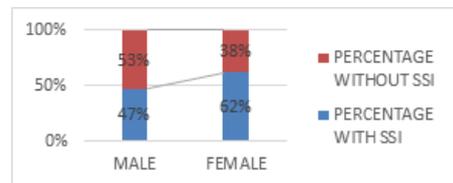
Incidence of SSI is more in female (62%) than male (47%) but statistically not significant. (p value: 0.32).

- Gender is not risk factor for development of SSI in our study.

## DIABETES MELLITUS:

- Incidence of SSI in diabetic is 67% and in non diabetic is 41% and is statistically significant (p value <0.05) so diabetes mellitus is significant high risk factor.

## HYPERBILIRUBINEMIA:

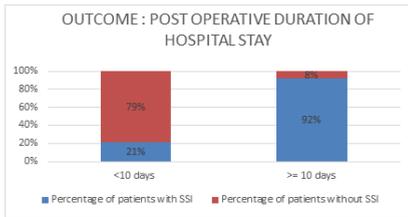


- Incidence of SSI in patients with elevated bilirubin is 69% and in patients with normal bilirubin is 41% and is statistically significant (p value <0.05) so hyperbilirubinemia is significant risk factor for SSI.

**TYPE OF WOUND:** Incidence of SSI in patients with clean wound, clean contaminated wound, contaminated wound and dirty wound is 13%, 18%, 58% and 64% respectively. And patient with contaminated and dirty wounds have very high risk of developing SSI.

**OUTCOME :** POST OPERATIVE HOSPITAL STAY, ICU ADMISSION, DISCHARGE AND DEATH:

- In patients with SSI , 92% patients have duration of hospital stay is >10 Days and patients without SSI , only 8 % patients have duration of hospital stay is >10 days and is statistically significant.



**CONCLUSION**

SSI increase the post operative hospital stay and thus increase risk of acquiring hospital acquired infections leading to significant morbidity and mortality. Using good surgical technique and pre operative antibiotic use, strict glycemic control and adequate resuscitation of patients before surgery can decrease incidence of SSI.

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