



## Surgery

## PREVENTING POST-OPERATIVE INFECTIONS: A SURGEON'S PERSPECTIVE.

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**ABSTRACT** **Objective:** Keeping in view the prevent infections in post-surgery; this study was designed to evaluate the frequency, Common risk factors and different organisms. Wound site infections are a major source of postoperative illness, accounting for approximately a quarter of all nosocomial infections. National studies have defined the patients at highest risk for infection in general and in many specific operative procedures. Advances in risk assessment comparison may involve use of the standardized infection ratio, procedure-specific risk factor collection, and logistic regression models. Adherence to recommendations in the 1999 Centers for Disease Control and Prevention guidelines should reduce the incidence of infection in surgical patients

**Study Type:** Observational descriptive Study.

**Study Hospital:** SHKM Govt.Medical College.

**Sample Size:**  $Z2XPQ/E2 = 84 \times 5 \times 95 / 25 = 72.96 = 74$

**Results:** Out of the 74 patients (54 males and 20 females) in the study. The overall incidence of surgical site infection in the study was 3%; 2.16 cases in the clean surgical Patients in the age group 51-60 years were infected more than those in the younger age groups. The incidence of wound infection was more in male patients (11.5%) as compared to female patients (10.4%). Obesity was also a main cause of SSI as evident from the fact that patients with more than 60kg/m<sup>2</sup> were infected more (20%) as compared to 30-40kg/m<sup>2</sup> (7.1%). Surgical site infection was found more in patients with extended pre-operative hospital stay. Anaemia, smoking, diabetes mellitus, prolonged surgery, operations by junior surgeons and operations late in the list were also associated with more surgical site infection. The usual time of presentation of SSI was within three weeks following surgery and most patients presented with wound abscess and cellulitis, while two patients had wound dehiscence. The common organisms involved in the SSI were Staphylococcus aureus, coli, Streptococcus pyogenes and Pseudomonas group.

**Conclusion:** Meticulous surgical technique, proper sterilization, judicious use of antibiotics, improvement of operation theatre and ward environments, control of malnutrition and obesity, treatment of infective foci and diseases like diabetes, and avoidance of smoking helps control the morbidity of surgical wound infections.

**KEYWORDS :** Surgical Site Infection (SSI) , Postoperative Infection , Clean Surgery .

Postoperative surgical site infections remain a major source of illness and a less frequent cause of death in the surgical patient. These infections number approximately 50,000. per year, Infections result in longer hospitalization and higher costs.

The incidence of infection varies from surgeon to surgeon, from hospital to hospital, from one surgical procedure to another, and--most importantly--from one patient to another. During the mid1970s, the average hospital stay doubled, and the cost of hospitalization was correspondingly increased when postoperative infection developed after six common operations. These costs and the length of hospital stay are undoubtedly lower today for most surgical procedures that are done on an outpatient basis, such as laparoscopic (minimally invasive) operations or those that require only a short postoperative stay. In these cases, most infections are diagnosed and treated in the outpatient clinic.

#### Description of Surgical Site Infections

The Centers for Disease Control and Prevention (CDC) term for infections associated with surgical procedures was changed from surgical wound infection to surgical site infection in 1992

#### Microbiology of Surgical Site Infections

The pathogens isolated from infections differ, primarily depending on the type of surgical procedure. In clean surgical procedures, in which the gastrointestinal, gynecologic, and respiratory tracts have not been entered, Staphylococcus aureus from the exogenous environment or the patient's skin flora is the usual cause of infection

According to data from the National Nosocomial Infections Surveillance System (NNIS), there has been little change in the incidence and distribution of the pathogens isolated from infections during the last decade. However, more of these pathogens show antimicrobial-drug resistance, especially methicillin-resistant S. aureus.

#### Prevention of Surgical Site Infections

The most critical factors in the prevention of postoperative infections, although difficult to quantify, are the sound judgment and proper technique of the surgeon and surgical team, as well as the general health and disease state of the patient In 1999, CDC's Health Care Infection Control Practices Advisory Committee published revised guidelines for the prevention of infection.

#### Prophylactic Antibiotic Use in the Surgical Patient.

Post Operative Infections re test	Male		Female		TOTAL(N=74)	
	No.	%	No.	%	No.	%
<b>RISK</b>	49	(66)	16	(22)	65	(88)
<b>HIGH RISK</b>	05	(6.7)	04	(05)	09	(12)
<b>TOTAL</b>	54	(73)	20	(27)	74	(100)
<b>Chi-Sqre test</b>	p < 0.05; df = 1					

**Table shown risk and high risk for male and female.**

The use of antibiotic prophylaxis before surgery has evolved greatly in the last 20 years. Improvements in the timing of initial administration, the appropriate choice of antibiotic agents, and shorter durations of administration have defined more clearly the value of this technique in reducing postoperative wound infections. Some historical milestones of the last 4 decades shed light on the current situation.

Most surgeons use both antibiotics and mechanical cleansing for preoperative preparation before elective colon resection .Three regimens of oral agents combine neomycin with erythromycin base, metronidazole, or tetracycline.

#### Conclusions

Recent improvements in antibiotic prophylaxis, including the timing of initial administration, appropriate choice of antibiotic agents, and shortening the duration of administration, have established the value of

this technique in many clinical surgical settings. Future study designs should strongly consider risk factors for individual patients when new antibiotic agents are tested or administration techniques are refined. A concentrated effort should be made in areas of clinical surgery where the post-operative wards are neat and clean.

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