Surgical Site Infections – Where We Stand?

Surgical site infections are a major concern to doctors, patients, health care facility both financially and socially. Despite advances in technology and meticulous attempts at prevention of infections, SSIs remain the third most common hospital acquired infection with a rate of 2-5% of patients undergoing surgery.¹ Not uncommonly these SSIs result in major morbidity as well as mortality directly attributable to these. There is a 7-11 times higher chance of death in patients with SSI.² Following an SSI, the cost of health care increases tremendously including a prolongation of hospital stay. According to a survey annual healthcare expenditures due to SSIs vary from $3.5- $10 billion.³ Constant registration, surveillance and audit are a part of hospital’s infection control departments so as to identify the risk factors and minimize SSIs.

In a developing country like ours, there are a number of uncontrollable factors that lead to SSI and a financial and social burden. Apart from usual risk factors for SSIs, overcrowding, unavailability of resources compared to the patient burden and patient related factors are a major concern in our setup. Inadequate and improper sterilization, inadequate hand hygiene and improper surgical instrument handling along with excessive theatre traffic are drawbacks in our setup.

Studies suggest that approximately 60% of SSIs are preventable.⁴⁵ Over the years, many preventive strategies have been designed keeping in view the risk factors causing SSIs. But most of these are unrealistic since the most important factor is a patient’s comorbid, that cannot be altered. What we can do is to follow evidence based guidelines formulated by surgical site control and prevention authorities. CDC and Healthcare Infection Control Practices Advisory Committee (HICPAC) guidelines, National Institute for Health and Clinical Excellence (NICE), Surgical Infection Prevention (SIP) Project, Surgical Care Improvement Project (SCIP) are a few authorities that have established guidelines and recommendations for SSI prevention.

Prevention of SSIs works over three phases; pre-operative, per-operative and post-operative phases of a patient’s hospital course. Certain studies emphasize on preoperative shaving and shower, nasal decontamination, theatre traffic, bowel preparation and antibiotic prophylaxis. Per-
operatively, use of aseptic technique is the most important factor whereas maintenance of normothermia and normoglycemia should be strictly followed. Wound cleansing, aseptic dressing and specific antimicrobial therapy are mainstays of preventing SSIs in post-operative phase.

Once an SSI is established, our focus should be on wound lavage and appropriate dressing reinforced by a culture specific antibiotic therapy. What we need to ask ourselves is do we honestly record, report and register an SSI when it occurs? Do we try to identify the risk factor that lead to the SSI? Do we have a functional infection control system in our facility that works based on surveillance and auditing of SSIs?

Implementation of preventive strategies revolves around four concepts; engage educate, execute and evaluate. The main preventive strategies that are being strictly implemented in PIMS, as of now, are proper hand washing, reduction of number of attendants per patient, adequate and timely tissue cultures and initiation of organism specific antimicrobial therapy and most importantly, reporting and auditing of SSIs.

References


