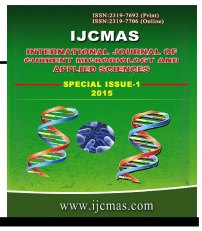
Int.J.Curr.Microbiol.App.Sci (2015) Special Issue-1: 173-176

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Special Issue-1 (2015) pp. 173-176**
http://www.ijcmas.com



Original Research Article

Understanding of Postgraduate Students Regarding Concept of Surgical Site Infections (SSIs)

Rahman N*, Faruqi NA, Yunus M and Zaidi T

Department of Anatomy, J.N. Medical College, A.M.U., Aligarh, UP., 202002, India
**Corresponding author*

Keywords

Surgical site infection, Nosocomial, wound, health care provider

A B S T R A C T

SSIs are defined as infections related to the operative procedure that occurs at or near the surgical incision within 30 days of an operative procedure or within one year if an implant is left in place. SSIs remains the most common complication following surgical procedures and they are not only associated with significant morbidity and mortality, but also with increased cost burden on health care. For reducing the incidence of SSIs, proper understanding of the health care provider about the concept of SSIs has to be improved. Hence, current study was undertaken to emphasize the importance of SSIs among PG students and to create awareness to decrease the incidence of SSI. For evaluating understanding of PG students regarding concept of SSIs, a proforma was distributed among 50 students consisting of 3 questions with answers in Yes or No. Our study showed that there is lack of appropriate understanding of SSIs in more than 1/3 rd of PG students.

Introduction

SSIs are defined as infections related to the operative procedure that occurs at or near the surgical incision within 30 days of an operative procedure or within one year if an implant is left in place. Surgical site infections (SSIs) are the second most common category of nosocomial infection (20%) subsequent to urinary tract infection (36%). Amongst surgical patients, SSIs are the most common hospital acquired infections accounting for 36% of nosocomial infections (Poggio, 2013; Klevens *et al.,* 2007; Horan *et al.,* 1992). The epidemiology of SSIs is complicated by the heterogeneous nature of these infections and varies widely between surgeons, patients, hospitals, procedures, and methods of surveillance (Owens and Stoessel, 2008). Big (> 500 beds) teaching hospitals have the highest risk for SSIs, followed by small teaching hospitals (< 500 beds), and followed by non-teaching hospitals, which have the lowest rates (Hughes *et al.,* 1983). Nevertheless, SSIs remains the most common complication following surgical procedures and they are not only associated with significant morbidity and mortality, but also with increased cost burden on health care (Vegas *et al.,* 1993). SSIs significantly increases the postoperative length of the hospital stay, hospital charges, and risk of fatality, despite significant efforts and

improvements in surgical practice, surveillance, and infection control techniques (Broex *et al.*, 2009; de Lissovoy *et al.*, 2009). Besides the above mentioned factors to decrease the incidence of SSIs, proper understanding of the health care provider (especially the young budding postgraduate students) about the concept of SSIs is to be improved. Hence, current study was undertaken to emphasize the importance of SSIs among PG students and to create awareness to decrease the incidence of SSIs, thus utilizing the saved health care budget for various social causes (education, child labour, female foeticide, etc).

The main aim of this study is to know the understanding of PG students regarding concept of SSIs and also to create awareness & to decrease the incidence of SSIs.

Materials and Methods

As mentioned above, SSIs are defined as infections related to the operative procedure that occurs at or near the surgical incision within 30 days of an operative procedure or within one year if an implant is left in place. For evaluating understanding of PG students regarding concept of SSIs, a proforma was distributed among 50 students consisting of 3 questions with answers in **Yes or No.**

1. Is SSIs synonymous with Nosocomial infection?
2. Is infection of traumatic wound categorized under SSIs?
3. Risk factors operating in development of SSIs are related to surgical technique only?

Results and Discussion

Overall % of correct reply by PG students were 62.67%, with wrong reply by 37.33% (Table 1). With regard to particular question, 58% correct reply for question No. 1 (Is SSIs synonymous with Nosocomial infection?); 60% correct reply for question No. 2 (Is infection of traumatic wound categorized under SSIs?) and 70% correct reply for question No. 3 (Risk factors operating in development of SSIs are related to surgical technique only?). There was not much difference in understanding of concept of SSIs in clinical & non-clinical PG students.

According to the U.S. Centers for Disease Control and Prevention (CDC), hospital-associated infections contribute to 99,000 deaths each year (Poggio, 2013). Surgical-site infections (SSIs) are the second most frequent type of nosocomial infection following urinary tract infection (Poggio, 2013; Klevens *et al.*, 2007; Horan *et al.*, 1992). By improving understanding regarding the prevention of SSI among PG's, a significant reduction in there incidence can be brought. Our study demonstrated that there is lack of understanding of SSIs in 1/3rd of PG students. Hence it is high time to create awareness among them by teaching programmes.

In the year 1992, the definition of wound infection was revised by the CDC, creating the terminology surgical-site infection (SSIs) to prevent confusion between the infection of a surgical incision and the infection of a traumatic wound. SSIs are defined as infections related to the operative procedure that occurs at or near the surgical incision within 30 days of an operative procedure or within one year if an implant is left in place. SSIs are divided anatomically into superficial incisional, deep incisional, and organ/space (Poggio, 2013; Klevens *et al.*, 2007; Horan *et al.*, 1992). SSIs impose a significant clinical and financial burden. A

study analyzing the incidence and impact of SSIs on hospital utilization and treatment costs using the 2005 Healthcare Cost and Utilization Project National Inpatient Sample database found that SSIs extended the length of stay by 9.7 days, while increasing costs by $20,842 per admission (de Lissovoy *et al.,* 2009). Furthermore, patients affected by SSIs required significantly more OPD visits, casualty section visits, imaging services, readmissions, and home health aide services than did controls (Perencevich *et al.*, 2003). Factors associated with SSIs result from the complex interaction between the patient health, the nature and number of organisms contaminating the surgical site, and the surgical technique (Mangram *et al.*, 1999; Kirby and Mazuski, 2009). Prevention of SSIs can be achieved by several methods, which include better preoperative preparation of the surgical site, sound infection control practice while performing operations, and strict adherence to prophylaxis antibiotic therapy (Poggio, 2013; Klevens *et al.,* 2007; Horan *et al.*, 1992). By improving understanding regarding the prevention of SSI among PG's, a significant reduction in there incidence can be brought. Thus a large amount of health care cost can be saved. The saved health care budget can be utilized for various social causes.

SSI remains the most common complication following surgical procedures and they are not only associated with significant morbidity and mortality, but also with increased cost burden on health care. Our study showed that there is lack of appropriate understanding of SSI in more than 1/3 rd of PG students. Current study was an attempt to highlight the importance of SSI among PG students and to create awareness to decrease the incidence of SSI, thus utilizing the saved health care budget for various social causes (education, child labour, female foeticide etc).

Table.1 Demonstrating the response of PG students to questions asked for evaluating understanding about SSIs

Question No.	Right Answer	Clinical PG Student (n = 25)	Non-clinical PG Student (n = 25)	Total (n = 50)
1	No	Right = 15 (60%) Wrong = 10 (40%)	Right = 14 (56%) Wrong = 11 (44%)	Right = 29 (58%) Wrong = 21 (42%)
2	No	Right = 17 (68%) Wrong = 8 (32%)	Right = 13 (52%) Wrong = 12 (48%)	Right = 30 (60%) Wrong = 20 (40%)
3	No	Right = 19 (76%) Wrong = 6 (24%)	Right = 16 (64%) Wrong = 9 (36%)	Right = 35 (70%) Wrong = 15 (30%)

References

Broex, E.C.J., van Asselt, A.D.I., Bruggeman, C.A., van Tiel, F.H. 2009. Surgical site infections: how high are the costs? *J. Hosp. Infect.*, 72(3): 193–201.

de Lissovoy, G., Fraeman, K., Hutchins, V., Murphy, D., Song, D., Vaughn, B.B. 2009. Surgical site infection: incidence and impact on hospital utilization and treatment costs. *Am. J. Infect. Control*, 37(5): 387–397.

Horan, T.C., Gaynes, R.P., Martone, W.J., Jarvis, W.R., Emori, T.G. 1992. CDC definitions of nosocomial surgical site infections, 1992: a modification of CDC definitions of surgical wound infections. *Infect. Control Hosp. Epidemiol.,* 13(10): 606–608.

Hughes, J.M., Culver, D.H., White, J.W., *et al.* 1983. Nosocomial infection surveillance, 1980-1982. *MMWR CDC Surveill Summ.,* 32(4).

Kirby, J.P., Mazuski, J.E. 2009. Prevention of surgical site infection. *Surg. Clin. North Am.,* 89(2): 365–389.

Klevens, R.M., Edwards, J.R., Richards, C.L. Jr., *et al.* 2002. Estimating health care-associated infections and deaths in U.S. hospitals, 2002. *Public Health Rep.,* 122(2): 160–166.

Mangram, A.J., Horan, T.C., Pearson, M.L., Silver, L.C., Jarvis, W.R. 1999. Hospital infection control practices advisory committee guideline for prevention of surgical site infection. *Infect. Control Hosp. Epidemiol.,* 20: 279–280.

Owens, C.D., Stoessel, K. 2008. Surgical site infections: epidemiology, microbiology and prevention. *J. Hosp. Infect.,* 70 02: 3–10.

Perencevich, E.N., Sands, K.E., Cosgrove, S.E., Guadagnoli, E., Meara, E., Platt, R. 2003. Health and economic impact of surgical site infections diagnosed after hospital discharge. *Emerg. Infect. Dis.,* 9(2): 196–203.

Poggio, J.L. 2013. Perioperative strategies to prevent surgical-site infection. *Clin. Colon Rectal Surg.,* 26(3): 168–173.

Vegas, A.A., Jodra, V.M., García, M.L. 1993. Nosocomial infection in surgery wards: a controlled study of increased duration of hospital stays and direct cost of hospitalization. *Eur. J. Epidemiol.,* 9(5): 504–510.