

Infection Rate at Obstetrics And Gynecology Ward of Tertiary care Hospital**Rajani Parikh*, Hetali Parmar**, Kairavi Desai***, Vishwa Kanabar*******Associate Professor, O&G, ** 2nd Year Resident, *** Professor & Head, Microbiology, **** Assistant Professor, O&G
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Abstract: Introduction: Nosocomial infections are infections occurring after patients get admitted in hospitals. The common nosocomial infections being surgical site infections (SSI), urinary tract infections (UTI), upper respiratory tract infections (URTI), thrombophlebitis (IV line) and systemic infection with positive blood culture (blood) Method: This study was conducted in Obstetrics And Gynaecology Department Of Government Medical College, Bhavnagar From January 2015 To December 2015 to determine the incidence of surgical site infections and associated infections and the pathogens responsible for it. It is a retrospective descriptive study as data were collected from case papers, registers etc. Result: The surgical site infection rate in our study in obstetric ward was 5.5% in cases of LSCS and 0.3% in episiotomy case and in gynaec ward was 2.5% in cases of Abdominal hysterectomy and 0.6% in cases vaginal hysterectomy. The common associated infection in obstetrics ward was UTI: 1.39%, IV line 0.27%, Blood 0.08% and URTI 0.14% while in gynae ward, UTI: 1.26%, IV line 0.96%, Blood 0% and URTI 0.11%. [R Parikh, Natl J Integr Res Med, 2018; 9(4):62-64]

Key Words: Surgical site infection, Nosocomial infection**Author for correspondence:** Dr. Rajani M Parikh, B 104, Achira Residency, Near Divdi, Rupani, Bhavnagar.364001, E-Mail: rajnimaulik@gmail.com M: 9408967969

Introduction: Surgical Site infections (SSIs) are the second most frequently reported infections of all nosocomial infections among hospital patients. According to the Center for Disease Control and prevention (CDC) SSIs are those infections that must develop within 30 days of operation.

Objectives:

- To determine the surgical site infection rate among women undergoing surgery
- To determine other associated nosocomial infections
- To detect the most common organisms responsible for the same.

Methods: This study was conducted in Obstetrics And Gynaecology Department Of Sir T Hospital and GMC Bhavnagar From January 2015 To December 2015. A retrospective descriptive study was conducted with the aim of determining the surgical site infection rate on all the women undergoing surgery in obstetrics and gynaecology ward. The retrospective data was collected from indoor case papers, registers and from microbiology department then edited and analysed. They are classified as class 1, class 2, class 3, class 4.

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. LSCS and ABDOMINAL HYSTERECTOMY were included in this group.

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. Operations like episiotomy in obstetrics and Vaginal hysterectomy involve some degree of bacterial contamination, and are classified as 'clean-contaminated' cases, even when the patient has no preoperative symptoms of active infection

Class III/Contaminated: Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, nonpurulent 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

Incisional SSIs are further divided into those involving only skin and subcutaneous tissue (superficial incision SSI) and those involving the deeper soft tissue of the incision (deep incisional SSI). After classification the wound infection in each group was calculated. Other infections like urinary tract infection due to urinary catheterization, thrombophlebitis due to IV line,,

respiratory tract infections and fever with changes in blood count was included under associated nosocomial infections.

Results: Table 1 and 2 shows the wound infection rate in obstetric ward and Gynec Ward Respectively Followed by infection rate (Table 3 and 4) and Common organism isolated from that ward (Table 5 &6)

Table 1: Wound Infection In Obstetric Ward

Class 1 (LSCS) (2718)	Class 2 (EPISIOTOMY) (910)
5.5%	0.3%

Table2: Wound Infection In Gynec Ward

Class 1 (abdominal hysterectomy)	Class 2 (vaginal hysterectomy)
2.5%	0.6%

Table 3: shows associated infection rate in obstetric ward

Urinary	1.39%
Iv Line	0.27%
Blood	0.08%
Respiratory Tract Infection	0.14%

Table 4: Shows associated infection rate in gynecology ward

Urinary	1.26%
Iv Line	0.96%
Blood	0.00%
Respiratory Tract Infection	0.11%

Table 5: The common organisms isolated from infected patients of obstetric ward

Urinary Culture Sensitivity	E.Coli
Pus Culture Sensitivity	E.Coli
Cervical Swab	E.Coli
Vaginal Swab	Klebsiella And E.Coli
Wound Swab	E.Coli
Blood Culture Sensitivity	Klebsiella And E.Coli

Table 6: organisms isolated from infected patients Gynecology WARD

Urinary Culture Sensitivity	E.Coli
Pus Culure Sensitivity	Klebsiella
Cervical Swab	Staphylococcus Aureus
Vaginal Swab	E.Coli
Wound Swab	E.Coli
Blood Culture Sensitivity	Klebsiella

Discussion: SSIs are the third most frequently reported nosocomial infection, accounting for 14% to 16% of all nosocomial infections among hospitalized patients in India.

The magnitude and pattern of wound study in sirt hospital bhavnagar was studied retrospectively over 1 year. The infection rate in our study was Obstetrics ward 5.5% while in gyneacology ward 2.5%.Pregnant women are at risk of infection during labour and delivery; most infections of the female pelvic organs occur when normal flora of the female genital or gastrointestinal tract contaminate the normally sterile amniotic fluid and uterus.

The severity of SSIs was not related to duration of pregnancy, labour, rupture of membranes and ASA class in this study as all patients were either ASA class I or II. However, prolonged rupture of membrane (> 12 hours) has been significantly associated with chorioamnionitis which was in turn significantly associated with SSIs. Women with intra-operative blood loss of more than 1000 ml were more likely to have perioperative blood transfusion and had a statistically significant association with increased severity of SSIs. This may also be as a result of uncorrected anemia antenatally.

Rates of surgical site infection (SSI) reported from individual institutions have ranged from 0% to 15%, depending on the indication for the operation, the site, the approach, and the use of instrumentation.¹ According to Demisew et al surgical site infection rate in his prospective study on 770 women from April 2009- March 2010 was 11.4%.² Infection rate was more following caesarean section as compared to hysterectomy. Bangal VB et al found that highest infection rate for laparotomies 11.4% followed by 10.94% for abdominal hysterectomies.⁶ The infection rate was highest for laprotomy 15.62% (5/32), followed by myomectomy 12.5% (1/8), abdominal hysterectomy 6.4%(16/250).³ The overall wound infection rate obtained by Shalini et al was 7.30% (22 cases of the study population of 301 patients). the overall incidence of wound infection was 2.85%, of which incidence of wound infection in exploratory laparotomy was the highest (15.6%), followed by abdominal hysterectomy (6.4%) and the incidence of wound infection being least in laparoscopic surgeries like laparoscopic tubal ligation (1.63 %) and laparoscopic hysterectomy (0%).⁴ This could be

explained by laparotomies were done for malignancy patients which were old age, immunocompromised, and prolonged pre-operative hospital stay and duration of operation.

The most common organisms isolated from positive cultures in our study were E.coli and Klebsella. Shittu et al in their study of 120 cases, at University teaching hospital in Nigeria, reported 62% of positive cultures from wound infection.²⁴ Of these 62% cases, 38.23% were mono-microbial and 53.92% were poly-microbial. Staphylococcus was the predominant organism, followed by E.coli, pseudomonas aeruginosa and staphylococcus epidermidis⁵. In the Bangal study, Predominant micro-organism isolated was staphylococcus aureus in 39% cases, klebsella in 7%, E. coli in 5%, pseudomonas aeruginosa in 3% acinobacter, diptheroid, streptococcus and enterococci each in 1% cases.⁴

Limitations: As it is a retrospective study some minor ailments related to infections in our cases may have been missed which had been treated on opd basis in the post operative period

Conclusion: Surgical site infections (SSI) are common in both developing and developed world. The incidence of SSI in the present study was similar to that of other published reports. Presence of patient related high risk factors like overweight, anemia, previous laparotomy scars and factors responsible for sub optimal operation theatre environment, like high humidity, large patient turnover, were responsible for development of SSI. The majority of surgical site infections can be prevented by the pre-, intra- and postoperative phases of care. Surgical site infections have a significant effect on quality of life of the patient. They are associated with considerable morbidity and longer hospital stay. In addition, surgical site infections result in a considerable financial burden to hospitals. Regular surveillance for SSI and ongoing periodic sensitization programmes for all categories of health care workers regarding SSI would help in reduction in the rate of SSI.

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