



SURGICAL SITE INFECTION (SSI) - THE MENACE STILL CONTINUES

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Background: Surgical site infection (SSI)

- Affects quality of life of patients
- Prolongs hospital stay
- Increases healthcare expenditure

❖ The study aimed at evaluating:

- ✓ the rate of SSI
- ✓ risk factors for SSI
- ✓ common causative agents and their antimicrobial resistance pattern as per CLSI guidelines⁽¹⁾

❖ Material & Method :

6 month prospective study

All patients undergoing major surgery in 2 units

- ✓ Detailed clinical history
- ✓ Pattern of antimicrobial prophylaxis
- ✓ Close post-operative monitoring
- ✓ Swabs from infected wounds
- ✓ Culture and identification of pathogen
- ✓ 30 day follow-up

Results:

Overall SSI rate : 32.57 %. (57/175 cases)

clean cases : 14% (10/71)

clean-contaminated cases : 21.3% (13/61)

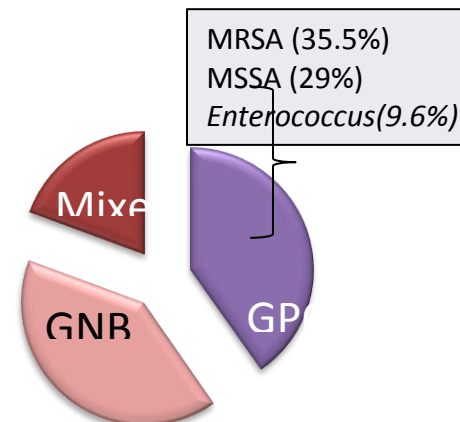
contaminated cases: 72.7% (24/33)

dirty cases : 100% (10/10)

Risk factors determined:

- Arbitrary antimicrobial prophylaxis (100%)
- Emergency(43.87%) vis-à-vis elective surgery (18.2%) (p<0.01)
- Higher order of day's surgery Trend test
- Duration of surgery p value <0.05

E. coli (25.5%)
P. aeruginosa(12.2%)
Klebsiella spp(7.8 %)



Organisms causing SSI

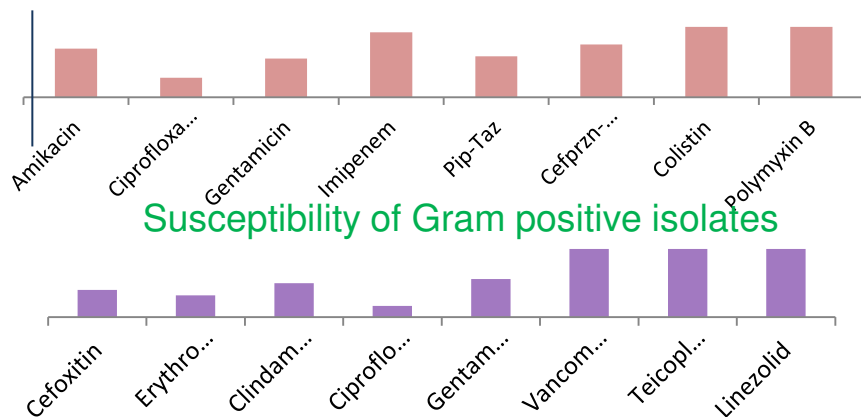


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Results



Discussion :

A high SSI rate was observed in our study(32.6%)

but comparable with Kamath et al.⁽¹⁾

The higher rates were possibly due to :

- Higher proportion of clean-contaminated, contaminated and dirty cases (104/175)
- Increased emergency surgery (98/175)
- Arbitrary antimicrobial prophylaxis
- Prolonged duration of surgery
- Higher number of GI surgeries - also accounted for higher proportion of Gram negative isolates (esp E. coli) as compared to other studies.^(2,3)

Emergency surgery and prolonged duration of surgery were risk factors for SSI in other studies as well.⁽¹⁻⁴⁾

Gram negative isolates were reasonably sensitive to **Amikacin(69%),Piperacillin-tazobactam(58%), Cefoperazone- Sulbactam(75%) & Imipenem (92%)** though **58%** of them were **ESBL +ve**.

The Gram positive isolates showed best sensitivity to **Gentamicin(56%)** followed by **Clindamycin(50%)** among the first line agents with a **35.5% MRSA** detection rate.

The overall incidence of **MDR** was **8.9 %** and can be attributed to **indiscriminate use of antimicrobials** prior to admission and **prolonged hospital stay**.

Conclusions:

Evidence-based infection control and formulation of antibiotic policy is the key step towards control of SSI.

Conflict of interest/ Acknowledgements : Nil /Dept. of Surgery, BJMC & SGH, Pune.

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