ABSTRACT

Background:

The role of loading dose of antibiotics during the induction of anaesthesia alone to prevent surgical site infection (SSI) in clean and clean contaminated cases has been recognized. Inappropriate use of antibiotics as empiric therapy does not give any added advantage.

Objective:

To compare the efficacy of loading dose of antibiotics during the induction of anaesthesia with empirical antibiotic usage in clean and clean contaminated elective general surgical procedures.

Methods

Source of data

Patients admitted as inpatients in Coimbatore Medical College Hospital for Class I (clean) and Class II (clean contaminated) elective general surgeries between June 2013-June 2014

Calculated sample size: 100

Among 100 patients 50 received loading dose of antibiotics during induction of anaesthesia and 50 received post operative empirical antibiotics. Among 100 patients 75 had clean wound [CLASS I] and 25 had clean contaminated [CLASS II] wound.
**Inclusion criteria**

Patients who underwent Class I (clean) and Class II (clean contaminated) elective general surgeries in Coimbatore Medical College Hospital, Coimbatore

**Exclusion criteria**

Patients with implants or prosthetic material  
Patients with Diabetes mellitus  
Patients on steroids, chemotherapy or immuno-suppression  
Patients with Contaminated and dirty wounds

**Results:**

The study was conducted on a total of 100 patients aged between 13-88, of which 75 underwent clean general surgical procedures and 25 underwent clean contaminated general surgical procedures in Coimbatore Medical College Hospital, Coimbatore from June 2013 to June 2014.

Among the 75 clean surgical cases, 38 received loading dose of antibiotic at the time of induction of anaesthesia and 37 received post-operative empiric antibiotics for 3 or more days.

Among the 25 clean-contaminated surgical cases, 12 received loading dose of antibiotic at the time of induction of anaesthesia and 13 received post-operative empiric antibiotics for 3 or more days.
Conclusion:

Our study shows that a loading dose of antibiotics (injection cefotaxime 2gm IV stat) during induction of anaesthesia in clean and clean contaminated surgeries is as effective in preventing post-operative surgical site infection as in the controlled group who received empiric antibiotic of full course in the post operative period for 5-7 days.

The rate of surgical site infections was in no way increased in patients who received a loading dose of antibiotic during induction of anaesthesia in comparison to those who received multiple doses of antibiotics post-operatively. The p value was found to be 0.695 (>0.05), which was not significant.

Thus it can be concluded from this study that a loading dose of antibiotic at the time of induction of anaesthesia is sufficient to prevent post-operative surgical site infections in clean and clean contaminated surgeries thus we can reduced the duration of hospital stay, the cost effectiveness, the adverse effects of antibiotics, nosocomial...

Key words:

Loading dose of prophylactic antibiotic therapy