Timing of Surgical Antibiotic Prophylaxis vs. Therapeutic Antibiotics and the Risk of Surgical Site Infection

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Objectives

- Differentiate between Prophylactic Antibiotics and Therapeutic antibiotics
- Understanding SCIP guidelines with use of prophylactic antibiotics
- Understanding the use of Therapeutic antibiotics by physician's order, prior to surgery

Introduction

The CDC has developed criteria that define surgical site infection (SSI) as infection related to an operative procedure that occurs at or near the surgical incision within 30 days of the procedure or within 90 days if a prosthesis was implanted.

Surgical Care Improvement Project (SCIP)

Appropriate antibiotic selection

- Antibiotic within 1 hour prior to surgical incision (2 hrs for Vanco and Levaquin)
- Antibiotic discontinued within 24 hours of surgery end time (48 hrs for cardiac surgery)

Prophylactic

- Guarding or preventing to ward off occurrence of disease
- Timing of prophylactic antibiotic administration for surgical procedures is nationally mandated and publicly reported
- Successful prophylaxis requires the delivery of the antimicrobial to the operative site before contamination occurs
- The optimal time for administration of prophylactic doses is within 60 minutes before surgical incision. Some agents, such as fluoroquinolones and vancomycin, require a longer administration time; therefore, administration of these agents should begin within 120 minutes before surgical incision.

Therapeutic

- Providing or assisting in a cure
- Patients receiving Therapeutic antimicrobial for a remote infection before surgery should also be given antimicrobial prophylaxis before surgery to ensure adequate serum and tissue levels of antimicrobial with activity against likely pathogens for the duration of the operation.
- If the agents used therapeutically are appropriate for surgical prophylaxis, administering an extra dose within 60 minutes before surgical incision is sufficient. Otherwise, the antimicrobial prophylaxis recommended for the planned procedure should be used.

Bibliography