Antibiotic prophylaxis policy in Surgery

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Introduction

• Prophylactic antibiotic reduces the incidence of post-op wound infection
• An adjunct to, not a substitute for, good surgical technique
• Wounds usually contain bacteria – often without detrimental effect
Antibiotic policy – why?

• encourages evidence-based use of antibiotics
• minimises the effect of antibiotics on patient’s normal bacterial flora
• minimises adverse effects
• causes minimal change to the patient’s host defences
Prophylactic vs Empiric therapy

Prophylaxis is indicated for procedures

• with high infection rates
• involving prosthetic material &
• where the consequences of infection are serious
General principles

• In uncomplicated procedures, a single pre-op dose of antibiotic = 5-day post-op therapy

• Prophylactic antibiotics should target anticipated organisms & be present in tissues when the initial incision is made

• Prophylactic antibiotics should be given within 1 hour prior to incision
General principles (contd.)

• Therapeutic concentrations should be maintained throughout the procedure. eg: prolonged procedures – repeat antibiotic every 3 hours

• For the majority of procedures, prophylaxis should not exceed 24 hours

• Complicated, contaminated or dirty procedures should receive additional post-op coverage
Empiric therapy

• *The continued use of* antibiotics after the operative procedure based upon the intra-op findings
Inappropriate prophylaxis

• *Unnecessary* use of *broad-spectrum* agents & *continuation of therapy* beyond the recommended time period

• These practices increase the risk of adverse effects & promote the emergence of resistant organisms
Suggested antibiotic policy

Appendectomy (non-perforated)

• Enteric Gram negative bacilli
  • 1st choice
    – Cefazolin + Metronidazole

• Alternative
  – Clindamycin + Aminoglycoside
Suggested antibiotic policy

Colorectal Surgery

• Enteric Gram negative bacilli, *Enterococcus*, anaerobes

• 1st choice
  – Cefazolin + Metronidazole

• Alternative
  – Clindamycin + Aminoglycoside
Suggested antibiotic policy

High-risk oesophageal, gastroduodenal or biliary surgery

• Enteric Gram negative bacilli, Gram positive cocci

• 1st choice
  – Cefazolin

• Alternative
  – Clindamycin + Aminoglycoside
Suggested antibiotic policy

Penetrating abdominal trauma

• Enteric Gram negative bacilli, *Enterococcus*, anaerobes

• 1\textsuperscript{st} choice
  – Cefazolin + Metronidazole

• Alternative
  – Clindamycin + Aminoglycoside
Consider avoiding antibiotics in ....

- Benign breast surgery
- Laparoscopic cholecystectomy*
- Open or laparoscopic inguinal or femoral or incisional hernia with or without mesh
- Splenectomy*
- Circumcision, hydrocoele repair
- Abscesses* (drainage/debridement/ irrigation alone may suffice)