

PROPHYLAXIS IN SURGICAL PROCEDURE

**DR. MOHAMMAD ANWAR HAU ABDULLAH
DEPARTMENT OF ORTHOPAEDIC,
HOSPITAL RAJA PEREMPUAN ZAINAB II.**

**ANNUAL SCIENTIFIC MEETING
ON ANTIMICROBIAL RESISTANCE
(ASMAR)**

16.10.2012

Surgical Site Infection (SSI):

- **20% of all healthcare-associated infections (HAI)**
- **At least 5% of patients undergoing surgical procedure develop a surgical site infection.**
- **Rate varies: types of surgery, surgeons, hospitals, countries.**

Impact Of SSI

de Lissovoy G (2009) in *2005 Healthcare Cost and Utilization Project National Inpatient Sample (HCUP NIS) reported:*

--SSI was associated with near 1 million additional inpatient-days and \$1.6 billion in excess costs.

SSI- important risk factor for hospital readmission, increased length-of-stay, reoperations, increase costs, and also *source of health care acquired infection*

Measures to reduce SSI

- **Skin prep, hair shaving**
 - **Pre-op shower**
 - **Stop smoking**
- **Reduce pre-op admission**
- **Improve nutrition status**
 - **Antibiotic prophylaxis**
- **OT environment- laminar flow**
- **Reduce no of OT personal and movement**
 - **Special OT attire etc, etc**

***American College of Surgeons National Surgical
Quality Improvement Program (ACS NSQIP®) 2012***

***Antibiotic selection and dosing, skin
preparation, maintenance of normal
body temperature, and intra-
operative sterile technique----->***

**Able to reduced SSI significantly and
cost saving**

AMP:

- **Adjunct, Not to sterilise tissue**
- **Not an alternative to:**
 - **sound surgical principles**
 - **good surgical technique**
 - **good soft tissue care and handling.**
 - **asepsis technique**
 - **other factors**

AMP- depends on

- **Risk of SSI is high**
- **Potential severity of the consequences of SSI**
- **Effectiveness of prophylaxis**
- **Minimise the effect on patient's normal bacterial flora and host defenses**
- **Minimise adverse effect and consequences of prophylaxis for the patient**

Choice of prophylactic antibiotics

- **Type of surgery**
- **Organism that must be covered**
- **Local resistance patterns**
- **Pharmacokinetic properties**
- **Safety profile and cost of antibiotic**

The chosen antibiotics must reflect local, disease specific information about common pathogens and their antimicrobial susceptibility

Maximizing Appropriate Antibiotic Prophylaxis for Surgical Patients: An Update from Infectious Diseases Society of America (2010)

- **Optimal use of antimicrobial prophylaxis includes proper case selection; use of appropriate agents; proper dosing, route of administration, timing, and duration; and intraoperative dosing when appropriate.**

Infection Control Today, July 30, 2012

3 important components for a successful surgical patient safety program:—

- **accurate outcome measurement**
- ***support of hospital leadership***
- ***engaged frontline providers—***

Will reduce surgical site infections (SSIs) significantly.

(published in the August issue of the Journal of the American College of Surgeons)

Take home message:

- Antibiotic prophylaxis should be regarded as one component of an effective policy for the control of healthcare associated infection (SSI)
- antibiotic prophylaxis is an adjunct to, not a substitute for, good surgical technique.
- Antibiotic prophylaxis: used appropriately- choice, timing, dosing and duration.
- ***Do not forget non-antimicrobial methods of preventing infection.***

Thank you