ANTIBIOTIC PROPHYLAXIS FOR PEDIATRIC SURGICAL PROCEDURES: PROTOCOLS, SAFETY, AND INTERVENTIONS

Thesis submitted for the master degree in pharmaceutical sciences (Clinical Pharmacy)

Presentsd by Pharmacist

Aya Mohammed Mohammed Essawy

B.Sc. Pharmaceutical Sciences 2005

Faculty of Pharmacy, Misr International University (MIU)

Under supervision of

Prof. Dr. Ayman Ahmed Al Baghdady

Pediatric Surgery Department

Faculty of Medicine

Ain Shams University

Prof. Dr. Nagwa Ali Sabri

Head of Clinical Pharmacy Department

Faculty of Pharmacy

Ain Shams University

Department of Clinical Pharmacy

Faculty of Pharmacy

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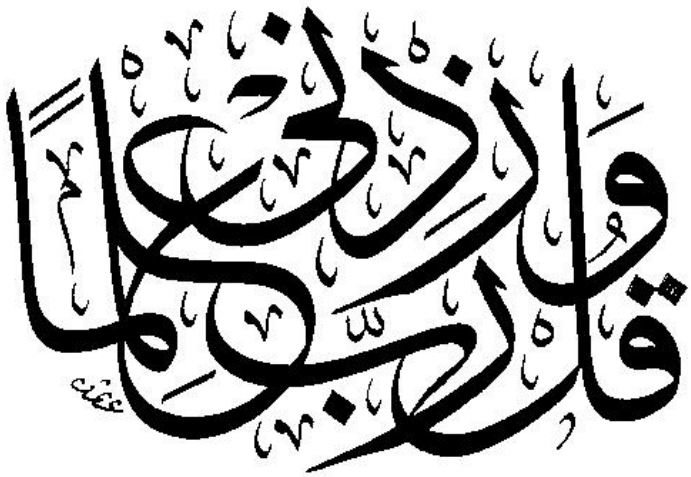

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LIST OF ABBREVIATIONS

ASA	American Society of Anaesthiologists
CDC	Center of Disease Control
NRC	National Research Center
SSI	Surgical Site Infection
WHO	World Health Organization

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Abstract

ABSTRACT

Background: Postoperative wound infection is an infection in the tissues of the incision and operative area. It can occur from 1 day to many years after an operation but commonly occurs between the fifth and tenth days after surgery Keeping in view the prevalence of the wound infections in our set up, this study was designed to evaluate the frequency, the antimicrobial prophylactic regimen, the hospital guidelines for surgical site infection prophylaxis and its adherence, the adherence to the internationally published guidelines.

Patients and settings: An observational Prospective study is used to detect the prescription, dosage, administration, interactions, and errors of peri operative antibiotics. The study proceeded at Ain Shams University hospitals, pediatric surgery department which consists of three units the ward, the ICU, and the operation unit. There is no pharmacy inside the unit. Drugs are dispensed weekly from the floor pharmacy to the nurse and stored in the stock cabinet. Hundred surgical pediatric patients (major and minor surgeries) were enrolled.

Clinical information in physician's orders, laboratory test results, physician's progress notes, anesthesia reports were reviewed. Verbally communicated information from the parents about the medical history of patients was included.

ABSTRACT

Medical records were screened for evidence of medication error and interactions occurrence taking into consideration that all the medication orders were handwritten.

The data was obtained either directly from the patient, or by observations or from the patient's file. The following data were recorded: gender, age, dates of admission, surgery and discharge.

Results: The study results showed that 26 patients acquired surgical site infections (26%).The obtained results shows the highest percentage of infection was in the contaminated surgical wound class (47.1%), followed by clean contaminated, dirty, and clean surgical wound classes (39.4%, 20%, and 8.9%) respectively . The adherence to the hospital protocol was 71% but 0% to the international protocols.

Conclusion: There was a high surgical site infection rate in the studied hospital. It was noticed that the local hospital guidelines did not comply with the international standards.

Recommendations: Adherence to the international guidelines is recommended to minimize the high rate of surgical site infections. Hospital should follow the recommended doses, regimen, and drug choice. Physicians, pharmacists, and nurses must be revised their roles in minimizing the infection rate.

Key Words: Antibiotics, Prophylaxis, Surgical site infections.

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Introduction

INTRODUCTION

Postoperative wound infections are the major source of infectious morbidity in the surgical patient. The use of perioperative antibiotics has become an essential component of the standard of care in virtually all surgical procedures. Prophylactic antibiotics in operations reduce the incidence of surgical wound infection. Surgical wounds are classified into four classes according to their cleanliness. First type is named as clean which includes elective, not emergency, non-traumatic, primarily closed; no acute inflammation, no break in technique; respiratory, gastrointestinal, biliary and genitourinary tracts not entered **(Nichols, 1982)**.

Second class is the clean-contaminated type which includes urgent or emergency case that is otherwise clean, elective opening of respiratory, gastrointestinal, biliary, or genitourinary tract with minimal spillage (e.g. appendectomy) not encountering infected urine or bile, minor technique break **(Ulualp et al.,1992)** .

Third type is named as contaminated which is the non-purulent inflammation; gross spillage from gastrointestinal tract; entry into biliary or genitourinary tract in the presence of infected bile or urine; major break in technique; penetrating trauma for less