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EVALUATION OF WOUND HEALING IN POST-SURGICAL PATIENTS CAESAR THOSE USING ANTIBIOTIC DRUGS AT TANJUNG PURA HOSPITAL

Mayang Sari¹, Sri Handayani², Rizka Hasmi Nasution³,
Nurmadiyah⁴

Faculty of Pharmacy and Health, Institut Kesehatan Helvetia
Medan

mayangsari@helvetia.ac.id

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Abstract: Introduction The World Health Organization (WHO) estimates that 5-15% of births globally are surgical cesarean section. Indonesian Health 2017 shows that 17.02% of deliveries in Indonesia are cesarean sections. Surgical wound infections are infections from wounds obtained after surgery. This infection can occur 30-90 days after surgery. Appropriate use of prophylactic antibiotics intraoperatively can reduce Surgical wound infections. Antibiotics are the most widely used class of drugs related to bacterial infectious diseases. Types of research used is prospective survey research with an approach of studying and testing hypotheses related to ongoing experience. Sample studies were 20 respondents. This research uses quantitative descriptive data analysis with a prospective research design. Research results At the Pharmacy Installation at the Tanjung Pura Regional General Hospital, surgical wounds began to close/dry as much as 70% (14 patients) for compliance with the use of antibiotics according to the right indication, right dose, right patient, right drug. Conclusion of this research is that administering antibiotics affects wound healing in patients and can ensure accuracy in suitability. It is recommended that the hospital review the cleanliness of the surgical area in order to improve the quality of the hospital.

Keywords: Surgery Caesar, Use of Antibiotic Drugs, Surgical Wound Care



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Introduction

The World Health Organization (WHO) estimates that 5-15% of births globally are surgical Cesarean sections. Although it can reach above 30% in private hospitals, the incidence rate in public hospitals is usually 11%. Additionally, Asia, Europe, and Latin America all experienced a 25% increase in the prevalence of cesarean sections, while China experienced a 46% increase (1).

The 2017 Indonesian Demographic and Health Survey showed that 17.02 percent of deliveries in Indonesia were cesarean sections. Based on Basic Health Research North Sumatra 2018, the proportion of delivery methods by cesarean section in North Sumatra Province was 23.89 percent (2). Wound After Cesarean Section is a scar left by a cesarean section performed on women who are unable to give birth naturally.

Surgical wound infection is an infection from a wound obtained after surgery which can occur 30-90 days after surgery. Surgical wound infections are one of the most common surgical complications in the world, especially in developing countries compared to developed countries. Appropriate use of prophylactic antibiotics intraoperatively can reduce surgical wound infections. The use of strong perioperative prophylactic antibiotics can reduce the incidence of surgical wound infections by up to 50%. Antibiotics are recommended in labor with Cesarean section because it can prevent or reduce the incidence of surgical infections caused by germs during surgery.

Antibiotics that can be used for patients cesarean section is ampicillin or from the cephalosporin group. Antibiotics are drugs that cost a lot of the cost of pharmaceutical supplies, namely around 12-44%. The use of antibiotics is considered necessary to reduce the incidence of antibiotic resistance (3). Surgical Prophylaxis Antibiotics is the use of antibiotics before, during, and no later than 24 hours after surgery in cases that clinically do not show signs of infection with the aim of preventing wound infections in the surgical area (4).

Based on research Novitaningtyas et al at the Tangerang District Hospital shows the pattern of use of prophylactic antibiotics in cesarean section patients, namely with single therapy with Cefotaxime (97.89%) and single therapy with Ceftriaxone (2.11%). Evaluation of the Use of Prophylactic Antibiotic Drugs in Surgical Patients caesar namely the right drug (100%), the right dose (100%) and the right time of administration (3.16%) (5).

Based on Pratiwi RW et al's research on the evaluation of the use of prophylactic antibiotics in cesarean section patients at Budhi Asih Regional Hospital for the period June-December 2020, the results of the study showed that the characteristics of cesarean section (SC) surgery patients aged ≤ 20 years were 14 people (7%), in aged 21–34 years there were 133 people (66.2%), and at age ≥ 35 years there were 54 people and parity ≥ 3 times, namely 87 people (43.3%). Based on a history of SC 1-2 times as many as 193 people (96%) and ≥ 3 times as many as 8 people (4%). The prescribing pattern used ceftriaxone for 200 people (99.5%), 1 person (0.5%) used amoxicillin, 200 people (99.5%) administered prophylactic antibiotics intravenously and 1 person (0.5%) orally, time and the frequency of giving prophylactic antibiotics was 201 people (100%), the duration of antibiotic administration, i.e. no prophylactic antibiotics were added, was 201 people (100%), the duration of surgery ≤ 60 minutes was 201 people (100%), 2 people had surgical wound infections (1%) and those who did not have surgical wound infections were 199 people (99%). Prophylactic antibiotics are used appropriately, namely ceftriaxone at a dose of 1-2 grams/day, the appropriate drug administration time is 30-60 minutes before surgery, the appropriate route of antibiotic administration is intravenous (4).

There are antibiotics for post-surgical patients caesar at the Tanjung Pura Regional Hospital are the cephalosporin class, namely ceftriaxone 1gr 445 vials, cefadroxil 500 mg 1068 tablets, and aminoglycoside class antibiotics, namely gentamicin 59 mg/ml 178 ampoules in the period January-June 2023.

The Tanjung Pura Regional General Hospital, Langkat Regency is a hospital that has quite a large number of surgical incidents, one of which is cesarean section with the number of cesarean section patients at the Tanjung Pura Regional General Hospital, Langkat Regency as many as 89 people and

there were patient complaints due to this. local infections after surgery, so far no research has been conducted regarding the evaluation of antibiotic use in cesarean section patients. Therefore, researchers are interested in knowing the evaluation of the use of antibiotic drugs in Cesarean section At the Tanjung Pura Regional General Hospital, Langkat Regency..

Methods

This research uses quantitative descriptive data analysis with a prospective research design. In this study, patient data was taken from the medical record section. where patient data taken is those whose temperature values do not exceed normal limits (37.5°C) within 24 hours after surgery. Caesar.

The location of this research was carried out at the Tanjung Pura Regional General Hospital located at Jl. Khairil Anwar No.11, Pekan Tj. Pura, Dist. No. Pura, Langkat Regency. This research was conducted from September-October 2023.

The population used in this study were all inpatients in September-October 2023, namely 20 people, where the average patient per month was 15 people with cesarean section at the Tanjung Pura Regional General Hospital, Langkat Regency. The sample in this study used a saturated sampling technique, namely taking 100% of the population. Data was taken in the period September-October 2023

Result and Discussion

Characteristics of Cesarean section patients at Tanjung Pura Hospital, Langkat Regency in 2023 based on age, the following data were obtained

Table 1. Surgical Patient Data Caesar at Tanjung Pura Hospital, Langkat Regency in 2023

No	Age (Years)	Number of Patients	Percentage
1	17-25	7	35%
2	26-35	10	50%
3	36-45	3	15%

Based on the data above, it is known that surgical patients Caesar In Tanjung Pura Hospital, Langkat Regency in 2023, 35% will be patients aged 17-25 years, and 50% will be patients aged 26-35 years, and as many as 15% will be patients aged 36-45 years.

Table 2. Data on Prophylactic Antibiotic Use in Surgical Patients Caesar at Tanjung Pura Hospital, Langkat Regency in 2023

No	Prophylactic Antibiotics	Number of Patients	Percentage
1	Ceftriaxone injection	20	100%
2	Cefadroxil tab	20	100%

Based on the data above, it is known that antibiotics are surgical prophylaxis Caesar used in Tanjung Pura Hospital, Langkat Regency in 2023, there are 2 types of antibiotics, namely Ceftriaxone injection 100%, cefadroxil tablet 100%.

Table 3. Data on the Effectiveness of Ceftriaxone injection at Tanjung Pura Hospital, Langkat Regency in 2023 based on Temperature Values

No	Parameter	Number of Patients	Percentage	Information
1	Temperature 36 °C-37,5°C	20	100%	Effective
2	>37,50 C	0	0%	Ineffective

Based on the data above, it is known that the effectiveness of Ceftriaxone based on the temperature value parameter is 100% effective.

Table 4. Data on the effectiveness of cefadroxil tab at Tanjung Pura Hospital, Langkat Regency in 2023 based on temperature values

No	Parameter	Number of Patients	Percentage	Information
1	Temperature 36 °C-37,5°C	20	100%	Effective
2	>37,50 C	0	0%	Ineffective

Based on the data above, it is known that the effectiveness of Cefadroxil tablets based on the temperature value parameter is 100% effective.

Table 5. Data on the effectiveness of antibiotic drugs at Tanjung Pura Hospital, Langkat Regency in 2023 based on surgical wounds Caesar

No	Closed wound diameter (dry)	Amount	Percentage
1	<2 cm	6	30%
2	>2 cm	14	70%

Based on the data above, out of 20 patients at Tanjung Pura Regional Hospital, Langkat Regency, the length of the wound measured in centimeters showed that there were 6 patients (30%) whose wounds were more than 21 cm long. while the wound length was less than 20 cm in 14 patients (70%).

Table 6. Data on the effectiveness of antibiotic drugs at Tanjung Pura Hospital, Langkat Regency in 2023 based on the diameter of the surgical wound Caesar closed (dry)

No	Wound length (cm)	Amount	Percentage
1	Port >21cm	6	30%
2	Port <20cm	14	70%

Based on the table above, it can be seen that the diameter of the wound Caesar The closed or dry wound was less than 2 cm in 6 patients (30%) and the diameter of the closed or dry wound was 14 patients (70%).

Table 7. Data on the effectiveness of the drugs Ceftriaxone and Cefadroxil at Tanjung Pura Hospital, Langkat Regency in 2023 based on leukocyte values (µl)

No	Parameter	Number of patients	Percentage	Information
1	Leukocytes 4,800-10,800 µl	2	10%	Effective
2	Leukocytes >10,800 µl	18	90%	Ineffective

Based on the data above, it is known that the effectiveness of Ceftriaxone and Cefadroxil in terms of leukocyte value parameters is 10% effective and 90% ineffective. Its effectiveness can be seen from the leukocyte value not exceeding the normal limit (10,800/µL).

Table 8. Appropriate Distribution of Indications in Postoperative Patients Caesar

No	Antibiotic group	Type	Appropriate	Not exactly
1	Cephalosporins	Ceftriaxone injection	20 (100%)	-
2		Cefadroxil tab	20 (100%)	-

Based on the research results, 20 patients (100%) were given the antibiotic ceftriaxone. The antibiotic cefadroxil was also used in 20 patients (100%). A drug is said to be appropriately indicated if the drug is given based on a patient's diagnosis and condition.

Table 9. Proper Distribution of Drugs in Postoperative Patients Caesar

No	Antibiotics Medical records	Types of Prophylactic Antibiotics		Appropriate	Not exactly
		Dipiro	AHFS		
1	Ceftriaxone	Cefazolin	Cefazolin	-	20 (100%)
2	Cefadroxil	Cefazolin	Cefazolin	20 (100%)	-

Of the 2 types of cephalosporin class antibiotics used in 20 patients at Tanjung Pura District Hospital which are in accordance with Dipiro and AHFS namely the use of the 1st generation cefazolin class of antibiotics, namely Cefadroxil, this is also in line with research conducted by Nida et al entitled Evaluation of the Use of Prophylactic Antibiotics in Cesarean Section Patients (Cesarean section) At RSUD Prof. Dr. Margono Soekarjo in 2020 that the 1st generation cefazolin is active against *Staphylococcus aureus* and *Staphylococcus epidermidis* bacteria, which are gram-positive bacteria found in surgical wounds, so cefazolin is effective for cesarean section patients (23).

Meanwhile, there is something that is not compatible with Dipiro and AFHS, namely ceftriaxone, considering that ceftriaxone is the 3rd generation of the cephalosporin group and is not recommended because third generation cephalosporin antibiotics are active against gram-negative microorganisms and less active against gram-positive microscopic organisms (23)

Table 10. Precise Distribution of Postoperative Patients Caesar

No	Patient Accuracy	Amount	Percentage
1	Exactly patient	20	100%
2	Not Appropriate patient	0	0%

Based on 20 patient medical record data section It is known that cesareans who have a history of allergies will have a skin test first, patients who do not have comorbidities or special conditions so that the prophylactic antibiotics used are safe and do not cause contraindications because there are no allergic reactions, changes in vital signs, side effects and other secondary infections. .

Table 11 Routine Medications Prescribed by Surgical Patients Caesar

No	Use of Surgical Drugs Caesar	Information
1	Ranitidine inj	Every 8 hours
2	Ceftriaxone inj	1 x use
3	Ketorolac inj	Every 8 hours
4	Ondansetron inj	Every 24 hours
5	Dexamethasone inj	K/P
6	Bupivacaine inj	1 x use
7	Transamin inj	Every 8 hours
8	Ketoprofen Supp	1 x use
9	Cefadroxil 500mg	3x1
10	Mefenamic Acid 500 mg	3x1
11	Etabion	2x1

No	Use of Surgical Drugs <i>Caesar</i>	Information
12	Albuforce/albumin	2x1
13	Sucralfate syr	3x1

Based on 20 medical record data and prescriptions for cesarean section patients at the Tanjung Pura Regional Hospital, there are drugs that can be used every 8 hours, such as ranitidine injection, ketorolac injection, Transamin injection. After the Cesarean section, the patient was given the stomach drug Sucralfate Syr. For certain patients, such as those with a history of hypertension or mental disorders, additional medications will be prescribed according to their needs.

Conclusion

1. Giving antibiotics to the length of the patient's post-surgical wound Caesar at Tanjung Pura Regional Hospital showed healing results in surgical patients Caesar.
2. Overview of Antibiotic Use in Surgical Patients Caesar in Tanjung Pura Regional Hospital, Langkat Regency in 2023, there will be compliance with the Right Indication, the Right Drug, and the Right Patient.

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