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A DESCRIPTIVE OBSERVATIONAL STUDY OF ANTIBIOTIC PRESCRIPTION PATTERN IN POSTOPERATIVE PATIENTS OF OBSTETRICS AND GYNECOLOGY WARD AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Surgical site infections are common complication of obstetric and gynaecological surgeries; up to 10% of gynaecological patients undergoing an operative procedure will develop a surgical site infection. **Methods:** this is a hospital based descriptive observational study. This study was conducted in Department of Pharmacology Dr SNMC and Department of Obstetrics and Gynaecology, Umaid hospital Jodhpur. **Results:** This study shown a general overview about overall use of drugs in postoperative patients in obstetrics and gynaecology ward. Most common major surgery done was lower section cesarean section (53.06%) followed by Laparotomy. Most common prescribed drugs were antimicrobials (100%), IV fluids (69.38%), analgesic (89.79%) and GI drugs(68.36%) respectively. **Conclusion:** This study shown a general overview about overall use of drugs in postoperative patients in obstetrics and gynaecology ward. An antibiotic policy has to be developed for the doctors in treating infections so that rationality in using the antibiotics will be developed and the occurrence of antibiotic resistance can be reduced.

KEYWORDS: Antibiotics, Obstetrics and Gynaecology, Drug utilisation pattern.

INTRODUCTION

Surgical site infections are common complication of obstetric and gynaecological surgeries; up to 10% of gynaecological patients undergoing an operative procedure will develop a surgical site infection[1] Postoperative utilization of drugs is very much marked. Drugs are prescribed for the purpose of analgesia, prevention of infection, nausea and vomiting and to maintain the haemodynamic status.[2]

Rational use of antimicrobial is extremely important as injudicious use can adversely affect the patient's health and leads to an emergence of antimicrobial resistance along with increase in the cost.[3]

The incidence of infections is of greater concern for operated patients because of these, early attempts to decrease the incidence of infections with prophylactic antimicrobials were used[4]

Properly timed accurate dose of preoperative antibacterial agent reduces the incidence of surgical site infection.[5] Drug use patterns helps in improving the standards of medical treatment at all levels in health system, also helps in the identification of problems related to drug use , polypharmacy is also more common before, during and after surgery. Injudicious use of these drugs can be avoided by evaluating the drug utilization.[6] In developing countries, researches with respect to obstetrics & gynaecology are limited, in pharmaceutical market, drugs used in obstetrics & gynaecology are highly selling drugs, but they are the least studied drugs in terms of drug utilization studies[7] Drug utilization evaluation is an important and efficacious tool for observing the appropriate usage of various indications including use of antibiotics.[8]

There are very few studies which have described the utilization of drugs postoperatively in Obstetrics and Gynaecology so this study has been planned to achieve the goals.

Aim and Objectives

This study is aimed to identify proportion of prescription of patients in postoperative ward of Obstetrics and Gynecology in tertiary care hospital attached with Dr S.N. Medical College.

Objective
To study antibiotic utilization pattern in postoperative patients of Obstetrics and Gynecology ward in tertiary care hospital.
Materials and method

Study design
A hospital based descriptive observational study.

Study setting
This study was conducted in Department of Pharmacology Dr SNMC and Department of Obstetrics and Gynaecology, Umaid hospital Jodhpur.

Population
Prescriptions of postoperative patients was collected from Obstetrics and Gynaecology ward of Umaid Hospital.

Study time
The data was collected over a period of six months.

Sample size

$$n = \frac{(Z_{1-\alpha/2})^2 \ P\,(1-P)}{E^2}$$

$= (1.96)^2 x86x14/25$
$= 184.92$
$= 200$

Where,

$Z_{\alpha/2}$ = Standard normal deviate for 95% confidence interval (taken as 1.96)
P = Expected proportion of prescription (taken as 86 as reported by Jitendra and Vaniya et al)
E = Absolute allowable error (taken as 5%)
Sample size calculated to be minimum 184 subjects, which was rounded off to 200 patients.

Inclusion criteria
Prescriptions of patients aged more than 18 years admitted in postoperative ward of Obstetrics and Gynecology in tertiary care hospital were recruited in this study.

Exclusion criteria
Prescriptions of patients who was give consent for the study.

Source of data
Postoperative patients prescriptions of day one, two and three of Obstetrics and Gynecology ward.

METHODOLOGY
The prescriptions of postoperative patients of Obstetrics and Gynecology on day one, two and three was collected and recorded on a pre structured case reporting form. Data was analyzed as per-

1. Age wise distribution
2. Diagnosis of included prescription of patients
3. Type of operation performed
4. Route of drug administration
5. Prescribed antibiotic

Statistical analysis
Data were recorded on Microsoft excel sheet. EPI-INFO version 7,which is a statistical software developed by Centres for Disease Control and Prevention(CDC) in Atlanta, Georgia (US) was used for statistical analysis.

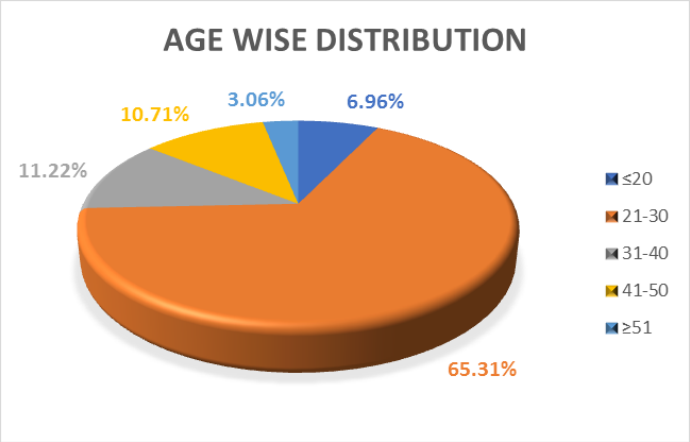
OBSERVATIONS AND RESULTS
Total 196 female patients of adult age group, who full-filled inclusion criteria were included in this study, conducted in department of pharmacology in association with department of obstretics and gynaecology at Umaid hospital, attached with Dr. S.N. Medical College, a tertiary care teaching hospital, Jodhpur, Rajasthan

Demographic profile

1. Age wise distribution of study patients
Out of 196 patients, maximum patients of age group 21-30 years (65.31%) followed by31-40 years than 41-50 years and less than 20 years and more than 51 years were minimum patients.

Table 1: Age wise distribution.

Age (yrs)	No. of encounters	Percentage
≤20	19	9.69
21-30	128	65.31
31-40	22	11.22
41-50	21	10.71
≥51	6	3.06
Total	196	100.00



Graph 1: Age wise distribution.

2. Types of surgeries performed

Out of 196 surgeries 135 were major surgeries and 61 were minor surgeries.

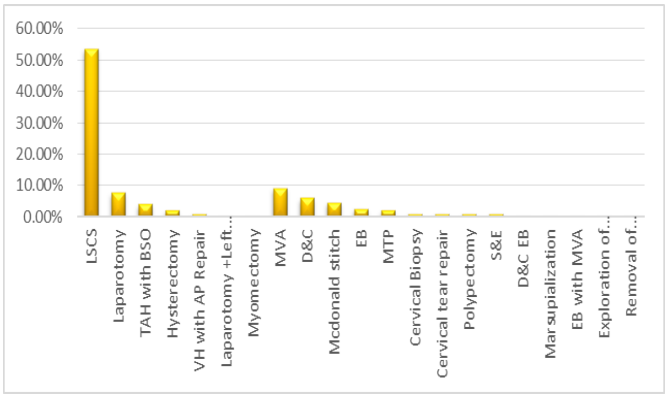
In major surgeries 104(53.06%) were lower section caesarean section surgeries.

15(7.65%) were Laparotomy. 8(4.08%) were TAH with BSO. 4 (2.04%)were hysterectomy. 2 (1.02%)were VH with AP repair. 1 (.51%) was laparotomy +left salpingectomy. 1(.51%) was myomectomy.

In minor surgeries 18(9.18%) were MVA. 12(6.12%) were D&C. 9(4.59%) were McDonalds stitch. 5(2.55%) EB.4 (2.04%) were MTP. Cervical biopsy 2(1.02%), polypectomy 2(1.02%), cervical tear repair 2(1.02%), S&E 2(1.02%).1(.51%). D&C with EB 1(.51%) D&C with MVA. 1(.51%). Marsupialisation. 1(.51%) removal of placenta and posterior Vaginal Wall repair.

Table 2: Types of surgeries performed.

Type of surgery	No. of patients	Percentage
LSCS	104	53.06
Laparotomy	15	7.65
TAH with BSO	8	4.08
Hysterectomy	4	2.04
VH with AP Repair	2	1.02
Laparotomy +Left salpingectomy	1	0.51
Myomectomy	1	0.51
MVA	18	9.18
D&C	12	6.12
Mcdonald stitch	9	4.59
EB	5	2.55
MTP	4	2.04
Cervical Biopsy	2	1.02
Cervical tear repair	2	1.02
Polypectomy	2	1.02
S&E	2	1.02
D&C EB	1	0.51
Marsupialization	1	0.51
EB with MVA	1	0.51
Exploration of uterine Cavity	1	0.51
emoval of placenta and posterior . Vaginal Wall repair	1	0.51



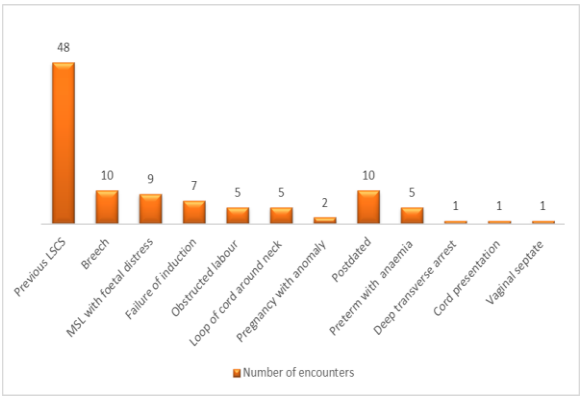
Graph 2: Types of surgeries performed.

3. Indication for LSCS

Total lower section caesarean section was 104 and most common indication was previous LSCS(48) followed by breech presentation and post-dated pregnancy[10] and Meconium stained liquor (MSL) with foetal distress[9] and failure of induction[7] and other less common indications encountered were obstructed labour ,deep transverse arrest and cord presentation.

Table 3: Indication for LSCS.

Indication	Number of encounters
Previous LSCS	48
Breech	10
MSL with foetal distress	9
Failure of induction	7
Obstructed labour	5
Loop of cord around neck	5
Pregnancy with anomaly	2
Post-dated	10
Preterm with anaemia	5
Deep transverse arrest	1
Cord presentation	1
Vaginal septate	1



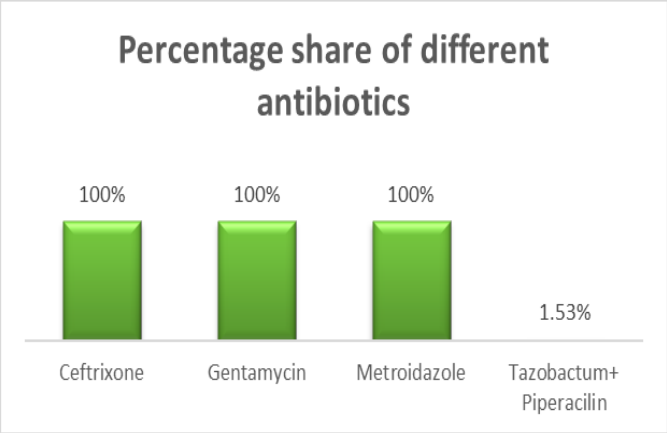
Graph 3: Indication for LSCS.

Percentage share of different antibiotics

Ceftriaxone, Gentamicin, Metronidazole were the most commonly prescribed antibiotics and were encountered in 100% of prescriptions. Tazobactum + Piperacilin were seen in only 1.53% of the prescriptions.

Table 4: Percentage share of different antibiotics.

Name of antibiotics	Number of Encounters	Percentage
Ceftriaxone	196	100%
Gentamicin	196	100%
Metronidazole	196	100%
Tazobactum+ Piperacilin	03	1.53%



Graph 4: Percentage share of different antibiotics.

DISCUSSION

A drug utilization study is an authorized and systemic quality improvement process. These studies are designed to review drug use and prescribing patterns of drug as per the guidelines. Data from 196 patient's prescriptions, matching inclusion criteria who underwent major surgeries and minor procedures and were admitted in postoperative ward of obstetrics and gynaecology and in this study 128 (65.31%) patients prescription were of age group 21to 30which is similar to study conducted by Chaudhary K P, Gaurav ,Kumar A, Kumar M[9] Most common major surgery done was lower section cesarean section(53.06%) which is equilent to study done by Dr.Rajeshwari.[10] Second most common surgery was Laparotomy. In minor procedure most common was MVA and second most common was D&C.

The average number of drug per encounter was 7.05. Most of patients recieved 4 to 8 drugs which is less than study done by Dr Choudhry K P and Dr Pradeep Sharma.[11]

Most common prescribed drugs were antimicrobials, IV fluids, analgesic and GI drugs respectively.

Among the individual antimicrobial drugs, inj. Ceftriaxone, Gentamicin and Metronidazole were prescribed in 100% patients. The purpose of antibiotic use was prophylactic or to prevent surgical site infection. second most common was inj diclofenac which was prescribed in 89.79% patients.

SUMMARY AND CONCLUSION

The present study was conducted in the department of pharmacology in association with the department of Obstetrics and Gynaecology in Ummaid hospital Jodhpur Rajasthan.

This study shown a general overview about overall use of drugs in postoperative patients in obstetrics and gynaecology ward. Most common major surgery done was lower section cesarean section (53.06%) followed by Laparotomy. Most common prescribed drugs were antimicrobials (100%), IV fluids (69.38%), analgesic (89.79%) and GI drugs (68.36%) respectively.

Limitation of the study

1. Shorter duration of study.
2. Study done at single centre only.

BIBLIOGRAPHY

1. Falguni. Use of antimicrobial prophylaxis for obstetric and gynaecological surgeries and sensitivity pattern of infective organisms. World journal of pharmacy and pharmaceutical sciences, 2014; 3(6): 1170-80.
2. Bhansali NB. Drug utilization study in postoperative patients in surgical ward of a tertiary hospital attached with medical college. Der Pharmacia Lettre, 2013; 5(1): 251-7.
3. Lim VKE, cheong YM, Suleiman AB. Pattern of antibiotic usage in hospital in Malaysia. Singapore Med J, 1993; 34: 525- 8.
4. Heethal J, Sarala N, Kumar TN, Hemalatha M. Pattern of antimicrobial use in caesarean section in a tertiary care hospital in rural south India. Int J Pharm Biomed Res, 2010; 1: 57- 61.
5. T Lakshmi Suseela, S Jaya Jyothi, T Mahendra, E Sam Jeeva Kumar, Drug Utilization Evaluation For Postoperative Patients In Obstetrics and Gynaecology Department In A Tertiary Care Teaching Hospital, Asian Journal of Pharmaceutical Technology & Innovation, 2016; 04 (19): 110-119.
6. Dr. Divyashree L. R., Dr. Aruna Bhushan and Dr.Tejaswini K. European journal of pharmaceutical and medical research. Drug utilisation study in gynaecological post operative cases: a retrospective study.ejpmr, 2017; 4(04): 418-423.
7. Mohd. Sajid Khan. A Drug Utilization Study in Post-operative Patients of IPD Obstetrics and Gynaecology International Archives of BioMedical And Clinical Research, 2019; 5(4).
8. Suwangool P, Waiwatana A, Israsena S, Moolaor P, Sitthiamorn C, Hanvanich M. Effect of a selective restriction policy on antibiotic expenditure and use: an institutional model. J Med Assoc Thai, 1991; 74: 272-5.

9. Chaudhary K P, Gaurav, Kumar A, Kumar M .Prescribing pattern of drugs in post operative patients of obstetrics & gynecology departement in a tertiary care teaching hospital in Uttar Pradesh. IJSR, 2019; 8(8): 43-45.
10. Shewade D, Pradhan S. Auditing of prescriptions in a government teaching hospital and four retail medical stores in Pondicherry. Indian J Pharmacol, 1998; 30: 408-10.
11. Pradeep Sharma. Use of Antimicrobial Agents in Post-operative Patients in Obstetrics and Gynaecology Ward: A Prospective Study. Int J Med Res Prof. Sept, 2017; 3(5): 19-22.