



SURGICAL SITE INFECTION IN ELECTIVE AND EMERGENCY LSCS

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ABSTRACT

Background: Cesarean Section (CS) is one of the most commonly performed surgical procedures in obstetrics and gynecology department. Surgical site infection (SSI) after a cesarean section increases maternal morbidity, prolongs hospital stay and medical costs.

Aims And Objectives: The aim of this study was to find out the 1.Incidence, 2.Associated risk factors 10 3.Type of organisms isolated and 4.Antibiotic susceptibility of these organisms in surgical site infection among cesarean section cases.

Materials And Methods: A Retrospective study was conducted at Government Dharmapuri medical college and Hospital, Department of Obstetrics and Gynaecology from June 2017 to May 2018. About 3939 patients who underwent Elective and Emergency LSCS during the study period were included in this study.Wound was evaluated for the development of SSI and followed up.

Results: Out of 3939 patients who underwent elective and emergency LSCS during the study period, about 60 cases found to have surgical site wound infection during the period. The incidence rate of surgical site infection was found to be 1.5%.The risk factor associated with SSI found to be Anaemia, PROM, PIH and obesity8. Out of which anaemia found to be the commonest cause.

Conclusion: Surgical site infection following caesarean section is common. PROM, PIH, anaemia and obesity found to be common risk factors in this study. Development of SSI is related to multi factorial rather than one factor2. Development and strict implementation of protocol by all the health care professionals could be effective to minimize and prevent the infection rate after caesarean section and to reduce the morbidity and mental stress of the patients.

KEYWORDS : Caesarean Section, Surgical Site Infection (SSI)

INTRODUCTION

Cesarean section is one of the most commonly performed surgical procedures in obstetrics and gynecology department. Surgical site infection (SSI) after a cesarean section increases maternal morbidity, prolongs hospital stay and medical costs.². The SSI after caesarean section causes physical, psychological and economical burden to woman, her family and to the community.

Post operative infection at the surgical sites in the obstetric procedures is very common in our country, as the state of health of many women is below the optimum level, i.e hemoglobin, nutritional status and multiparty⁴.

The aim of this study is to bring out the incidence, causative organisms, antibiotic susceptibility and risk factors associated with SSI in our institutions and to formulate the necessary protocols and steps to reduce the same.

METHODS

This study was conducted in Government Dharmapuri Medical college and Hospital, Department of Obstetrics and Gynaecology from June 2017 to May 2018.This is a Prospective, Descriptive study .Total of 3939 women who had undergone caesarean section for delivery during study period were considered as eligible.

Inclusion Criteria

All women who had undergone cesarean section for delivery in our hospital during the study period were considered as eligible.

Exclusion Criteria

1. Patients who were discharged on 3rd day, 2.patients who underwent exploratory laparotomy following LSCS, 3.LSCS done outside , 4.history of evidence of pre existing infection like fever, UTI, diarrhoea were excluded from the study.

Methodology

SSI was identified based on the appearance of redness,

indurations, wound discharge and wound gapping. Wound swab was sent for culture and sensitivity in patients with wound discharge. Organisms were isolated and antibiotic sensitivity were identified. Wound was followed up with regular dressing, change of antibiotics according to the culture and sensitivity report.

RESULTS

Being a tertiary care centre with reference from many nearby PHCs and GH, with a rate of 51% caesarean sections (C-section) in our unit, a total of 3939 women underwent the procedure during the one year study period. Of these, about 86.4% (n=3405) were performed as emergency and 13.5% (n=534) undertaken on elective list. A total of 60 post operative cases diagnosed with surgical site infection were studied during the specified period.

Table-1: Elective Vs Emergency

	Total no. of cases	Cases with SSI	%
Elective	534	3	4.9%
Emergency	3405	57	94.9%
Total	3939	60	1.5%

Table-2: Risk Factors

1	ANAEMIA	20	33.3%
2	PROM	18	29.9%
3	PIH	12	19.9%
4	OBESITY	10	16.6%
TOTAL		60	

Table-3: Clinical Presentation

	Elective	Emergency
Erythema	2(3.3%)	20(33.3%)
Induration	1(1.6%)	33(55%)
Wound discharge	1(1.6%)	46(76.7%)
Wound gapping	-	16(26.6%)
Burst abdomen	-	-

Table-5 : Organisms Isolated

	Elective	Emergency
E coli	0	7
Klebsiella	0	9
Pseudomonas	0	2
Staphylococcus	1	1
No growth	0	20

1. Elective vs Emergency

Surgical site infection was commonly seen with cases that were done as Emergency when compared to Elective cases⁹. Of the 60 cases with SSI, 57(94.9%) were delivered by emergency C-section and 3 (4.9%) by elective caesarean sections. (TABLE-1)

2. RISK FACTORS

Most of the patients with SSI had associated Anemia as a risk factor, followed by PROM more than 12 hours as the cause. Patients with Pregnancy induced hypertension (PIH) with abdominal wall edema and obese patients' also developed SSI Out of the risk factors Anaemia was found to be the commonest cause in 33.3% (20) cases, Next was PROM >12 hours 29.9%(18)cases. 12cases(19.9%) had PIH and 10 patients(16.6%) (TABLE-2)

3. CLINICAL PRESENTATION

Most common clinical presentation was wound discharge in both elective and emergency lscs.

4. ORGANISMS ISOLATED

Pus from the wound was collected in a swab and sent for culture and sensitivity from all the 47cases with wound discharge. The common organism identified were Klebsiella, Ecoli, Pseudomonas and Staphylococcus. Antibiotic sensitivity was tested for these and treated appropriately. It was observed that the organisms were mostly sensitive to Aminoglycosides and Quinolones

FOLLOW UP

Most of our cases improved with antibiotics and good nutrition In our study about 10% of cases needed re-suturing out of 60 cases.

DISCUSSION

Reported rates of post-cesarean SSI vary greatly, from 0.3% in Turkey⁴ and 11.6% in Brazil⁵ to 18.3% in Saudi Arabia⁶. The present study included 3939 CS patients, and 60 had infection which accounts for 1.5 % and is comparable with rates of different studies.

Emergency surgery predisposes to infection. Hospitals with a strict policy on reducing primary sections may go for a decision on section after a trial of labor. As a result, emergency surgeries may increase in number. These emergency surgeries have a high chance of SSI.¹ similar results were obtained in this study also. In this study in emergency LSCS SSI found to be 94.9%, and in elective LSCS 4.9%.

Pre-operative hospital stay significantly increased SSI in this study. The stay in the hospital premises increases patient's susceptibility to hospital acquired infections. These infections increase the chances of sepsis and wound infection in these patients. Over crowding in the general wards may contribute to increased evidence of sepsis.

Reasons for prolonged hospital stay in this series were mainly: Diabetes mellitus, pre-eclampsia, anemia out of which anaemia contributed for common cause of SSI in this study.

CONCLUSION:

The incidence of LSCS is on increasing trend contributing to not only to maternal mortality but also morbidity. Surgical site infection contributes significantly to morbidity.

Four independent risk factors¹ are significantly increasing the

chance for SSIs after CS. All four of them are modifiable to a certain extent. 1. Proper antenatal care to identify anemia early and treat before the women come for delivery will significantly reduce SSI. 3. PROM cases should be identified and treated with appropriate antibiotics at the right time to avoid post operative complications. 3. Early detection and treatment of PIH will help in reducing the post op morbidity. 4. Life style modification and health education to women should be practiced to avoid obesity in pregnancy.

Unnecessary pre-operative hospital stay and overcrowding should be discouraged. In public sector Hospitals, this may be a challenge for the caregivers. Another factor worth mentioning is the relationship between hypertensive disorders and prolonged hospital stay (Co-founder) Proper guidelines to avoid prolonged stay and early decision making can bring down the incidence of SSI.

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