



## RETROSPECTIVE STUDY OF POST CAESAREAN SECTION SURGICAL SITE INFECTION AT WEST MOST COAST OF INDIA

### Obstetrics & Gynaecology

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### ABSTRACT

Surgical site infection is one of the most common complication following Cesarean section and has an incidence of 3% - 15%. it places physical and emotional Burden on the mother herself and significant financial burden on the health care system. Moreover, is associated with a maternal morbidity rate of up to 3% Optimization of maternal comorbidities, appropriate antibiotic prophylaxis and evidence - based surgical newer techniques are some of the practices proven to be effective in reducing the incidence of SSI. Inspection of the cesarean incision is an essential part of the postoperative evaluation. The presence of fever, tenderness, erythema, purulent discharge, or induration should raise a suspicion of infection. Most wound infections do not become clinically apparent until postoperative days 4–7, when most women have already been discharged from the hospital. For that reason, it is essential to instruct these women on signs and symptoms requiring further evaluation since early treatment has an important role in preventing severe consequences.

### KEYWORDS

Cesarean section, surgical site infection, management

#### INTRODUCTION

- Cesarean delivery is a major obstetrical surgical procedure to save the lives of mothers and fetuses.
- The rate of SSI ranges from 3% to 15% worldwide. The variation in incidence may reflect difference in population characteristics and risk factors, peri- operative practice, and the duration from the procedure until ascertainment.
- The risk for developing SSI has significantly decreased in the last three decades, mainly owing to improvements in hygiene conditions, antibiotic prophylaxis, sterile procedure, and other practices.
- There is worldwide increase in prevalence of virulent bacteria that are resistant to multiple antimicrobial treatment. One strain associated with disastrous post operative infection is staphylococcus aureus.
- Staphylococcus aureus colonize the skin and open wound, interfere with wound healing.
- In addition, SSI Can Be frustrating for the mother trying to recover from the procedure and at the same time take care of the newborns. It may prolong maternal and hospitalization, increase health care cost and lead to socio-economic implications.

#### Aims And Objective

- To find the incidence of surgical site infections following cesarean section and to assess the associated risk factors and the common pathogens involved in these wound infections.

#### METHODS

- A retrospective study was conducted from January 2024 to March 2025 at Guru Gobind Singh Govt. Hospital, Jamnagar. Total number of patients with post cesarean section infection was 90.
- I have included all types of cesarean section, exclusion criteria was skin infection at local site and suture material or dressing material but not found any patients with this criteria.

#### RESULTS

##### Socio-demographic Characteristics

From a total of 622 selected medical records of mothers undergoing cesarean section, all were eligible and reviewed in this study. The mean age of the mothers was 27.67 with majority of them were less than 30 years old.

Variables	Category	Frequency		Percentage
		No.	SSI present	
Age	<30	400	25	6.5%
	≥30	222	40	18.0%
	<b>Total</b>	<b>622</b>	<b>65</b>	<b>10.45%</b>

Parity	Primi-Para	260	40	15.38%
	Multi Para	362	48	13.25%
	<b>Total</b>	<b>622</b>	<b>88</b>	<b>14.14%</b>
Duration of labor	Not in labor	122	0	
	<24hrs	394	62	15.73%
	≥24hrs	106	32	30.18%
	<b>Total</b>	<b>622</b>	<b>94</b>	<b>15.11%</b>
Duration of membrane rupture	Intact	285	29	10.17%
	Ruptured <12hrs	240	42	17.5%
	Ruptured ≥12hrs	97	26	26.8%
	<b>Total</b>	<b>622</b>	<b>97</b>	<b>15.59%</b>
Presence of meconium	Yes	132	40	30.3%
	No	490	54	11.01%
	<b>Total</b>	<b>622</b>	<b>94</b>	<b>15.11%</b>
Type of CS	Emergency	593	109	18.38%
	Elective	29	2	6.89%
	<b>Total</b>	<b>622</b>	<b>111</b>	<b>17.84%</b>
Mother with gestational diabetes	Yes	26	12	46.0%
	No	596	15	2.5%
	<b>Total</b>	<b>622</b>	<b>27</b>	<b>4.73%</b>
Prophylactic antibiotics	Given	596	40	6.71%
	Not given	26	8	30.76%
	<b>Total</b>	<b>622</b>	<b>48</b>	<b>7.71%</b>
Length of hospital stay	<8 days	498	57	11.44%
	≥8 days	124	30	24.19%
	<b>Total</b>	<b>622</b>	<b>87</b>	<b>13.98%</b>

#### DISCUSSION

- The centre of Disease Control and Prevention defines SSI as an infection occurring within 30 days from the operative procedure at the site of surgical incision including the drain site. It can be superficial, involving the skin and subcutaneous tissue or deep involving fascial and muscle layer.
- Staphylococcus aureus is the most common organism isolated in SSI, accounting for 15%–20% of cases. Gram-negative bacilli, coagulase negative staphylococci, Enterococcus species, and Escherichia coli are other organisms commonly isolated from SSIs. SSI in relation to cesarean delivery has a distinctive microbial source of pathogens composed of both skin and vaginal origin. Accordingly, it is usually a polymicrobial infection consisting of both aerobic bacteria and anaerobic organism Knowledge of the pathogens and risk factors associated with SSI is essential for developing targeted prevention strategies to reduce the risk and treat the infection.

#### Risk Factors

- Risk factors can be divided into three categories.

- 1) host-related factors,
- 2) pregnancy and intrapartum-related factors and
- 3) procedure related factors

#### Host – Related Risk Factors

- Maternal age
- Obesity
- Residence in rural ( compared to urban areas)
- Pre – gestation DM
- Previous cesarean delivery

#### Pregnancy Related Factors

- PROM
- Greater no. If vaginal examination
- Prolonged trial of labour prior to surgery
- Chorioamnionitis

#### CONCLUSION

- Caesarean delivery is one of the most frequent surgical interventions performed worldwide and accounts for up to 60% of deliveries in a number of countries. It carries risk for various short-term postoperative morbidities including SSI.
- From this study we can conclude that in compare to urban population; rural population has 4% more chances of developing SSI.
- Uneducated female has 7% more chances of developing SSI as compare to educated female.
- Multipara female has slight higher chances of developing SSI compare to primi gravida female.
- In female labour duration of 24 hrs has 15% more chances of developing SSI as compare to labour time <24 hrs.
- In female with 5 per vaginal examination has around 15% more chances of developing SSI as compare to in female <4 per vaginal examination done.
- In female duration of Rupture of membrane 12 hrs has 16% more chances of developing SSI as compare to <12 hrs duration of rupture of membrane.
- Baby passing meconium has about 20% more chances of SSI as compare to absent meconium stained liquor.
- Emergency LSCS has 11% more chances of developing SSI as compare to elective LSCS.
- If duration of LSCS is 60 minutes there is 16% more chances of developing SSI as compare to if duration is <60 minutes.
- If prophylactic antibiotics not given then there is 24% more chances of developing SSI
- When duration of hospital stay is 8 days then there is 13% more chances of developing SSI in compare to discharge given within 8 days.

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