ORIGINAL ARTICLE

Evaluation of 200 Cases of Caesarean Section to Find Out Post Operative Urinary Tract Infection

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Abstract:

The incidence of caesarian section varies from hospital to hospital and from community to community. Endometritis, post surgical infection, mastitis, genital tract infection, perineal cellulites, respiratory complication from anaesthesia, retained product of conception, urinary tract infection and septic pelvic phlebitis are the post partum infection. To find out urinary tract infection in caesarean section. This prospective cohort study was conducted in the Department of Gynae and Obstetrics, Holy Family Red Crescent Medical College Hospital from August 2003 to January 2004 over a period of six months. Two hundred pregnant patients age between 15 to 42 years, both primi & multipary, pre term, term and post term cases were included in this study. Patients having fever prior to caesarean section were excluded from this study. Out of 200 caesarean section cases history of previous caesarean section (33.5%), Fetal distress (31%), preeclampsia (9.5%), cephalopelvic disproportion (8%), placenta praevia (6.5%) obstructed labour (4.5%), bad obstetric history (3.5%), early rupture of membrane (3.5%). Term delivery was 77%, preterm was 16.5% and post term was 6.5% in this study. 43.0% cases was primi para and 56.5% was multipara. 22 (11.0%) cases of study population had a history of UTI during pregnancy and only 29 (14.5%) cases developed urinary tract infection. Out of 29 cases only 3 (13.6) cases had a history of urinary tract infection during pregnancy. But there was no wound infection after caesarean section in this study. Urinary tract infection is probably due to improper aseptic precaution during catheterization. Organism isolated from urine were pseudomonas (44.8%), Klebsilla (24.1%), E.coli (20.7%), proteus (10.3%). In this study, 29 (14.5%) cases developed UTI following caesarean section and only 3 (13.6%) cases had a history of UTI during pregnancy.

Introduction:

The aim of an obstetrician is to have a healthy mother and a healthy baby. To achieve this goal caesarian section plays an important and vital role as some of deliveries are never possible through the vaginal route without jeopardizing the life or health of the mother or baby. The recent advancements in anaesthesia, antiseptic and aseptic technique, antibiotics, blood transfusion and surgical technique have reduced the maternal and foetal mortality and morbidity due to caesarian section to a very low level. Still the operation is not totally free of hazards. So, judgment has to be exercised in deciding which cases should be delivered by caesarian section[1- 6].

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The incidence of caesarian section varies from hospital to hospital and from community to community[7]. Overall, post-partum infection is estimated in the U.S.A to occur in 1-8% of all deliveries. Post partum infection include endometritis, post surgical infection, mastitis, genital tract infection, perineal cellulites, respiratory complication from anaesthesia, retained product of conception, urinary tract infection and septic pelvic phlebitis [8,9,10,11,12,13,14].

Urinary tract infection may be defined as presence or invasion of micro organism and multiplication in a previously sterile urinary system. The threshold traditionally used for defining significant bacteriuria is 105 or more colony forming units of bacteria/ml of freshly voided mid stream specimen of urine15.

Prevalence of bacteriuria in pregnant women was same as that in non pregnant females16. The rate of infection in women ranges from 4.0% to 7.0%. A urinary tract infection result varied and is estimated to occur 14.5%17. Women are 30 times more likely to have cystitis than men. An estimated 7 million episodes of urinary tract infection occur each year in US. On average, 10.0-20.0% of all women will develop a Urinary Tract Infection at some time in their lives and 20.0% of them will have recurrent Urinary Tract Infection. Enterobacteriaceae and other organisms like pseudomonas, streptoviridence, staphylococcus aureus and coagulase negative staphylococcus etc. were the organism causing UTI 8.

The aim of this study is to find out urinary tract infection in caesarean section and thereby appropriate measure should be taken for amelioration of infection.

Method:

This prospective cohort study was conducted in the Department of Gynae & Obstetrics, Holy Family Red Crescent Medical College Hospital over a period of six months. Two hundred pregnant patients age between 15 to 42 years, both primi & multipary, pre term, term and post term cases were included in this study. Patients having fever prior to caesarean section were excluded from this study. All patients were catheterized before caesarian section and catheter were removed 24 hours after operation and sample was sent to laboratiory for routine microscopic and microbiological test.

Results:

Total 200 cases were enrolled in this study. Age group from 15 yrs to 42 yrs and mean age of study population was 27.43 yrs.

Table-I: Indication of caesarean section of study population

Indication of caesarean section	Frequency	Percentage
History of previous caesarean section	67	33.5
Fetal distress	62	31.0
Preeclampsia	19	9.5
Cephalopelvic disproportion	16	8.0
Placenta praevia	13	6.5
Obstructed labour	9	4.5
Bad obstetrics history	7	3.5
Early rupture of membrane	7	3.5

This table shows that 33.5% cases had history of previous caesarean section, 31% had fetal distress, 9.5% had preeclampsia, 8% had cephalopelvic disproportion, 4.5% had obstructed labour, 3.5% had bad obstetric history and 3.5% had early rupture of membrane.

Table_II: Duration of pregnancy of study population

Duration	Frequency	Percentage
Term	154	77
Preterm	33	16.5
Post term	13	6.5

This table shows that 77.0%, 16.5% & 6.5% of study population were term, preterm and post term respectively. There were 43.5% and 56.5% of study population are primi para and multi para respectively and almost 11% study population had a history of UTI during pregnancy. About 14.5% of the study population developed UTI (growth) after Caesarean section.

Table-III: Relation between UTI during pregnancy and after Caesarean section

		UTI during pregnancy		Total
		Yes n (%)	No n (%)	
UTI after caesarean section	Yes	3 (13.6)	26 (14.6)	29 (14.5)
	No	19 (86.4)	152 (85.4)	171 (85.5)
	Total	22	178	200

This table shows that 3 (13.6%) developed UTI after caesarean section among 22 cases who had suffering from UTI during pregnancy and 26 (14.6%) cases developed UTI after caesarean section among 178 cases who had no history of UTI during pregnancy.

Table-IV: Organism isolated from Urine of UTI after caesarean section cases (n = 29).

Organism	Number	Percentage
Pseudomonas	13	44.8
Klebsilla	07	24.1
E. coli	06	20.7
Proteus	03	10.3
Total	29	100

This table shows that pseudomonas (44.8%), Klebsilla (24.1%), E. coli (20.7%) and proteus (10.3%) were isolated from urine of UTI after caesarean section cases.

Discussion:

Caesarean section is a major surgical procedure in obstetrical management but still it has got some mortality and morbidity for the mother and the baby. There are lot of study regarding complication after caesarian section in home and abroad (e.g. Post partum infection which include endometritis, post surgical infection, mastitis, genital tract infection, perineal cellulites, respiratory complication from anaesthesia, retained product of conception, urinary tract infection and septic phlebitis. In this study we have tried to find out the urinary tract infection only after caesarean section in 200 cases in Holy Family Red Crescent Medical College Hospital.

In this study, out of 200 caesarean section cases history of previous caesarean section (33.5%), Fetal distress (31%), preeclampsia (9.5%), cephalopelvic disproportion (8%), placenta praevia (6.5%) obstructed labour (4.5%), bad obstetric history (3.5%), early rupture of membrane (3.5%) (Table II). Term delivery was 77%, preterm was 16.5% and post term was 6.5% in this study (Table III). 43.0% cases was primipara and 56.5% was multipara. 22 (11.0%) cases of study population had a history of UTI during pregnancy and only 29 (14.5%) cases developed urinary tract infection. Out of 29 cases only 3 (13.6) cases had a history of urinary tract infection during pregnancy. But there was no wound infection after caesarean section in this study. Urinary tract infection is probably due to improper aseptic precaution during catheterization. Organism isolated from urine were pseudomonas (44.8%), Klebsilla (24.1%), E.coli (20.7%), proteus (10.3%)

Parrot et al[18](1989) showed in their study that urinary tract infection was 14.5% following caesarean section. UTI was found in 6.0% cases in the study of Leigh et al [19](1990). Tangtrakul et al[20] (1994) found 25.5% UTI following caesarean section. The result of this study is consistent with above studies.

Klebsiella pneumoniae was the commonest isolated organism in the study of Tangtrakul et al[20] (1994). The commonest bacteria were Escherichia coli and enterococci (Leigh et al., 1990)[19]. In this study Pseudomonas, Klebsilla were common organisms in UTI.

Conclusion:

According to this study findings, 29 (14.5%) cases developed UTI following caesarean section and only 3 (13.6%) cases had a history of UTI during pregnancy.

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