



Use vs Non Use of Urinary Catheter During LSCS

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ABSTRACT

Background- caesarean section is a surgery done in our day to day practice and it is customary to put a urinary catheter prior to the procedure. it is associated with increased chance of urinary tract infections, discomfort & delayed ambulation.

Objective- to determine the outcome without using urinary catheter during caesarean section

Methods- a prospective randomized controlled trial was carried out from January 2015 to December 2015 in the department of obstetrics & gynecology, Kalinga Institute of Medical Sciences, Bhubaneswar. Total 300 patients are included in the study. Half of them was catheterized & rest without catheter.

Results- there was no significant difference between duration of surgery between two groups. But the group in which catheter was used were associated with sign & symptoms of urinary tract infection ($P < 0.001$). Higher incidence of urinary infection in this group determined by microscopic examination & also culture ($P < 0.001$). Hospital stay is relatively shorter in nonuser group ($P < 0.05$)

Conclusions- caesarean section can be conducted safely with less morbidity if no urinary catheter used.

KEYWORDS : caesarean section, pregnancy, urinary catheterization, urinary tract infection

Introduction

Caesarean section is most common surgical procedure performed by a gynecologist. It is a routine to put a urinary catheter to a patient undergoing caesarean section with the belief that continuous draining of bladder causes better exposure of lower uterine segment also prevents bladder injury. Handling of bladder during surgery causes bruising & edema leads to urinary retention predisposing urinary tract infection (UTI). In our hospital it is routine practice to keep an indwelling catheter for 24 hrs with the logic that full bladder does not allow proper retraction of uterus following delivery leading to post partum hemorrhage (PPH).

However several studies have shown that without using an urinary catheter caesarean section can be carried out without any difficulty & negative side effects. It has also been seen that not using a catheter associated with lower incidence of urinary tract infection, less voiding discomfort. In this study we aim at determining the feasibility of performing caesarean section without catheter & incidence of UTI, PPH & voiding difficulties.

Materials & methods

At Kalinga Institute of Medical Sciences (KIMS) between January 2015 to December 2015 a prospective randomized controlled trial was carried out in the department of obstetrics & gynecology. A total of 300 patients are included in this study after clearing the formalities i.e. clearance from ethical committee & written consent from the patient herself.

Inclusion criteria kept simple i.e. who can void satisfactorily prior to going operation theatre. Both the emergency & elective cases were included. Exclusion criteria are previous caesarean section, previous myomectomy, obstructed labour, grand multipara, ante partum haemorrhage, pre eclampsia, eclampsia, maternal heart disease & preoperative established infection.

Patients in non catheter group asked to void in the bathroom of OT complex before entering the OT. For catheter group voiding is not mandatory. All other pre operative preparation was done as per institution protocol. Surgery was done under subarachnoid block with transverse incision. Intravenous fluid, antibiotics, oxytocin given as per requirement. Intravenous paracetamol was given for analgesia. Rectal misoprostol 600mg was given to prevent post partum haemorrhage. The duration of surgery, amount of blood loss, total amount of intravenous fluid were recorded. Routine post operative nursing care

given as usual. In catheter group Foleys catheter removed after 24 hrs of surgery.

In noncatheterised group the patient were asked to void only upon feeling the urge to pass urine rather than following a time limit. Providing a bedpan usually serves the purpose, if fails early ambulation to nearby toilet done. Sometimes providing privacy or adequate analgesia helps her to pass urine. Indwelling catheter considered only when patient was unable to pass urine even after 6 hours of surgery or there is a palpable painful swelling in lower abdomen. When there was passage of clot or increased bleeding per vaginum Foleys catheter considered irrespective of time.

For documentation purpose beginning of surgery considered as zero time. Anaesthesia procedure was not included. The operation time means the time consumed from giving skin incision to closure of skin. Time of ambulation means time taken for movement of the patient considering start of surgery as zero time. Also time of first voiding noted as interval between start of operation and first voiding. The hospital stay was defined as time interval between start of surgery and hospital discharge. The duration of hospitalization prior to surgery not taken in to account.

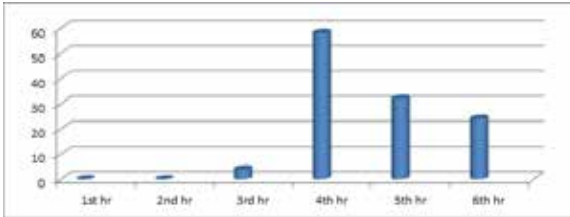
Urine routine examination was carried out on 1st post op day & a sample sent for culture & sensitivity test on 2nd post op day. Clinical features of UTI were looked for i.e. lower abdominal pain, dysuria & fever. If above mentioned features are associated with positive culture a diagnosis of UTI was made.

Results

The statistical calculation are made with the obtained data. Both the groups were similar in terms of age & period of gestation. The time difference between two groups for duration of surgery is not significant. It indicates failing to catheterize prior to surgery does not affect the ease of doing surgery. No case of bladder injury reported in both the groups. The mean time of duration of surgery is 27.56 ± 3.8 minutes in non catheter group & 30.32 ± 3.3 min in catheter group.

Mean ambulation time was shorter in the patient without catheter (14.4 ± 4.1 hours) compared to catheter group (15.48 ± 4.34 hours) though not statistically significant. Hospital stay is also shorter in no catheter group.

parameters	Without catheter	With catheter	P value
Duration of surgery(in mins)	27.56±3.8	30.32±3.3	.110
Mean ambulation time(in hours)	14.4±4.1	15.48±4.34	.100
Hospital stay(in days)	3.1±0.4	3.04±.24	.3



Out of 118 patients who could void on their own 58 voided after 4hrs, 4 of them voided as early as 3hrs & 24 after 6 hrs. The mean time taken for first void was 4.64 ± 0.85 hours. There was a statistical significant association between first voiding discomfort & the use of indwelling catheter ($p < 0.001$). 32 of patients in no catheter group required catheterization after a mean time interval of 5.16 ± 1.80 hours. 6 patients from no catheter group developed PPH which treated conservatively.

Time of first void in no catheter group

Fever in post operative period in catheterized group mainly contributed by urinary tract infection ($p = 0.003$). Sign & symptoms of urinary tract infection, positive culture report was significantly associated with use of urethral catheter. These patients were treated by antibiotics as per culture & sensitivity.

parameters	Without catheter	With catheter	P value
First void discomfort	18	128	<0.001
fever	2	22	0.03
Sign & symptoms of UTI	10	80	<0.001
Urine c/s	16	88	<0.001

Comparison of Different events of post operative period Discussion

Urinary tract infection is the commonest puerperal infection & is mostly related to urinary catheter. Bacteriuria develops in at least 10-15% of the hospitalized patient with an indwelling catheter. UTI accounts for 35 to 45% of all nosocomial infection.

The higher prevalence of UTI in catheterized patient in our study is similar to study by senanayake. According to Bartzen et al the increased incidence of UTI associated with caesarean section is probably almost entirely due to catheterization & the best way to prevent it would therefore be to avoid catheterization.

This study showed first void discomfort in 9% in no catheter group vs 64% in catheter group but a study by Ghoreishi J shows 6% vs 93%. Nasr AM et al found discomfort at urination at 24hr & one week after surgery was significantly high in the catheter group. The mean time taken for first void was 4.64 ± 0.85 hours in our study which is similar to the result of J Ghoreishi. 6% of uncatheterized patient required recatheterization in study conducted by arulkumaran et al. in our case no recatheterization as we directly put indwelling catheter.

The mean duration of surgery was not statistically significant between two groups & was in accordance to the study of senanayake. As we do surgery by Misgav Ladach technique & we extorise the uterus during surgery there is hardly any difference in both groups. In our study there is no reported bladder injury.

Patient without catheters were discharged earlier than catheter group & these findings are similar to study by Nasr AM et al & Ghoreishi.

Conclusion

The routine use of an indwelling catheter for caesarean section is not necessary & with the rising incidence of caesarean section the benefits of avoiding catheterization are like to be substantial. Thus caesarean section can be done safely without routine use of urinary catheter with reduced morbidity

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