

Assessment of discharge after 24 hours following elective caesarean section in Omdurman Maternity Hospital, Sudan, 2010

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Abstract

Objective: to assess patient satisfaction and morbidity associated with 24 hours hospital stay after elective caesarean section.

Methodology: A descriptive study done in Omdurman maternity hospital (OMH) in 2010. All women admitted for elective C/S were counselled for discharge after 24 hours from C/S. Those with medical or obstetrical problems necessitating admission for longer time were excluded. Women who refused to be discharged were included as control after an informed consent. All women were operated on by trained registrars or consultants under similar conditions & were followed till discharge from hospital.

Results: The total number of deliveries in OMH during 2010 was 28975. Out of them 21022(72.6%) had spontaneous vaginal delivery and 7953 (27.4%) delivered by caesarean section. Elective C/S comprised 3204(11.1%) while emergency C/S 4749(16.4%). The study included 1439.716(49.8%) as study group and 723(50.2%) as control. Readmission was needed for 41(2.8%), 15(1.1%) from study group and 26(1.8%) from control group. The reason in 24(1,7%) was wound infection, 5(0.3%) DVT, two with endometritis and eight (0.6%) due to non- pregnancy related infection. Although, there is slight increase in rate of readmission due to wound infection and DVT in control group, there is no significant statistical difference between the two groups. However there is significant statistical difference in the rate of satisfaction between the two groups In the study group, 613(85.6%) ladies were satisfied with the short hospital stay compared to 269(37.2%) in the control group who were satisfied with longer hospital stay after elective C/S ($P = 0.0001$).

Conclusion: Short hospital stay after elective C/S was associated with more patients' satisfaction, without increase in maternal mortality or morbidity, compared to control.

Key words: endometritis, vaginal delivery, maternal mortality.

Caesarean section (C/S) is the delivery of the foetus through a surgical incision in the abdominal and uterine wall after 28 weeks of pregnancy. It originated since the 8th century BC, and modified through decades to become safe in expert hands. It is either elective or

emergency. The rate of C/S is around 20-25% in developed countries and 2 -14% in developing countries¹. Maternal mortality and morbidity (MMR) associated with C/S is twice that associated with vaginal delivery, where 30-60% are directly related to the procedure itself². Puerperal infections (wound infection, endometritis, urinary tract infection, pelvic abscess and deep vein thrombosis-DVT) are 5-20 times greater with C/S than vaginal delivery, with increased length of hospital stay².

Women who are recovering well after caesarean delivery and do not have complications, should not have their intake of oral fluids and food restricted. Urinary

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catheter can be removed once a woman is ambulatory. Providing there are no contraindications, non-steroidal anti-inflammatory drugs should be given to relief pain and wound dressing can be removed after 24 hours³. Prolonged hospital stay after caesarean section may be complicated by nosocomial infections, leading to surgical wound infection, septicaemia, DVT, pulmonary embolism- PE and increased neonatal sepsis. It may be associated with maternal depression, less patient's satisfaction, increased cost for maintenance of health⁴.

Duration of hospital stay after C/S differs significantly between countries, where it is around 3-4 days in most of developed countries³. In Sudan, it is about 3-5 days when abdominal incision is transverse and up to 7-10 days when the incision is longitudinal, with no data supporting this policy. Average cost of a one day hospital stay for a single patient in general ward and private wing in OMH is around 85 SDG and 315 SDG respectively. In elective C/S patients are usually well selected with optimal preoperative care and good intra-operative conditions that favour discharge after 24 hours following operation. No available data in Sudan assessing hospital stay after caesarean section.

Objectives:

To analyse the outcomes of hospital discharge 24 hours after surgery

Patients and methods:

Sudan occupies 1.88 million square kilometres in the centre of Africa with estimated population 33.42 millions, adult literacy 53.4% countrywide, 66% being for males and 40.8% for females, suffering from poverty, malnutrition, early marriage, multiparity and harmful traditional practices⁵. Khartoum, capital of Sudan, occupies 28000 square kilometres, with 4.74 million inhabitants, and adult literacy 73.6%, being 81.1% for males and 65% for females, with multi-cultural diversities.

In this descriptive study, list of patients for elective C/S were prepared. Women were

counselled for discharge after 24 hours following operation by trained group of registrars, explaining the benefits of short hospital stay. Women agreed, were included as study group. Those who refused were considered as control group after obtaining the same informed consent. All women were operated on by a registrar or a consultant, through transverse abdominal incisions under spinal anaesthesia. All were advised to have skin-to-skin contact with their babies to start breast feeding as soon as possible after C/S. Post operatively, patients received approximately 3-4 litres of intravenous fluid, with suitable analgesia composed of non-steroidal anti-inflammatory analgesics, given rectally, immediately following C/S. Women started to take orally as soon as they tolerated that and were encouraged early mobilization. Second or third generation cephalosporin were used at the start of C/S. Patients were followed till discharge from hospital, and contact follow-up at two weeks, through telephone, with routine follow-up visit after six weeks. They were advised on how to recognize symptoms and signs of wound infection and other complications. They were advised to contact the investigators whenever needed. Data editing and analysis was done by a trained personnel using SPSS program.

Results:

The total number of deliveries in OMH during 2010 was 28975. They were 21022 (72.6%) vaginal delivery, 7953 (27.4%) caesarean sections. Elective C/S comprised 3204 (11.1%) and emergency C/S 4749(16.4%). Women included in the study were 1439.716(49.8%) as the study group and 723(50.2%) as controls. There was no difference between controls and study groups in their age, occupation, husband's occupation, level of education, parity and type of operation. Regarding patients age 1103(76.7%) were 18- 35 years, 312(21.6%) were above 35 years of age and 24(01.7%) women were teenagers. Majority of patients were house wives 1214 (84.4%), while 177 (12.3%) were professionals and 48(03.3%) women were labors. Only 52 women (03.6%)

were illiterate, 874(60.7%) had completed their primary and/or secondary school while 513(35.7%) were university students or graduates. Multipara constituted 1029(71.5%), primigravida 232 (16.1%) and grandmultiparae were 17 patients. Only 354(24.6%) had primary C/S, 453(31.5%) had one previous scar and 632(43.9%) had two or more scars.

Readmission was 41(2.8%) fractionated into 15(1.1%) from study group and 26(1.8%) from control group. This was due to wound infection in 24(1.7%) patients; 8(0.6%) in the study group and 16(1.1%) in the control. Readmission due to deep vein thrombosis (DVT) was 5(0.3%); two in the study group and three in the control. Endometritis occurred in two cases one in each group. Non-pregnancy related infection was encountered in four in each group. In our study group, 613 (85.6%) were satisfied with short hospital stay, while in control group, 269 (37.2%) were satisfied with longer hospital stay after elective C/S.

Discussion:

Elective caesarean section have potential benefits such as reducing birth asphyxia, birth trauma, cord accidents, fresh still birth and birth canal injuries, however, it is not without complications. Caesarean section has an emotional and financial impact on patients; including cost and prolonged hospital stay⁶. Our caesarean section rate in this study was 27.4%. It is relatively high compared to WHO suggested rates, 5-15%; however, it is consistent with rates in developed countries, where it ranges between 20-25%⁷. Our rate of C/S may be explained by the increased number of referred cases to this hospital. This will increase the hospital load, bed occupancy and cost which necessitates the need for short hospital stay after elective C/S for uncomplicated cases. Discharge of 716 patients after elective C/S will save about 61,000 SDG per day from public ward, without significant increase in readmission. The duration of hospital stay after elective C/S varies between countries, ranging

Table I: Audit of elective caesarean discharged 24 hours after section and controls in OMH 2010.

Variable	Study group n= 716	Control group n= 723	Chi square	P.V.
Readmitted	15(1.1%)	26(1.8%)	1.90	0.168
Wound infection	08(0.6%)	16(1.1%)	1.45	0.228
DVT	02(0.13%)	03(0.17%)	NS	
Non-pregnancy related infection	04(0.3%)	04(0.3%)	NS	
Endometritis	01(0.1%)	01(0.1%)	NS	NS
Patient satisfaction	613(85.6%)	269(37.2%)	53.17	0.0001

between 3-5 days. However, early post partum discharge is now becoming a recent practice³. The National Institute of Excellence recommended 24 hours hospital stay after elective C/S for uncomplicated cases, while the American College of Obstetrician and Gynaecologist guidelines recommended 72 hours hospital stay after elective C/S⁸. Bosset 2001 reported that discharge after 24 hours of elective C/S was acceptable to patients and was not associated with an increased maternal mortality or

morbidity⁹. In another study, it was reported that, when women who were afebrile and did not have complications following caesarean delivery were discharged 24 hours after C/S and were followed up at home, with no more documented infant or maternal readmissions³.

Hospital stay after C/S is affected by many factors. Spinal anaesthesia is associated with speed recovery, reduced venous thrombo-embolism, decreased paralytic illness, respiratory complications, risk of surgical site

infection and shorter hospital stay than general anesthesia¹⁰. After C/S usually is associated with shorter hospital stay than emergency C/S. Lower transverse incisions is associated with smooth postpartum recovery than midline abdominal incision, especially when it is elective¹¹. The use of prophylactic antibiotics and anticoagulants reduce complications of infections, DVT and PE leading to decreased hospital stay. On the other hand, repeated C/S leads to increase the risk of adhesions, difficult operations, bleeding, placenta praevia and injuries to surrounding structures and hence lead to prolonged hospital stay after C/S¹¹. In this study, 505(70.5%) had one scar or more, discharged after 24 hours without significant complications or readmission than the control. Socio-demographic conditions may also affect hospital stay. Usually multiparous women would like to be discharged earlier, due to their home commitments. Venditteli reported that women leaving hospital early after C/S were often multiparous, medically fit, with uncomplicated pregnancy¹². In this study, the readmission rate was 2.8%. Of that 1.7% was due to infection. This is consistent with that reported by Venditteli, who had readmission rate 3.2% with 2.2% due to infection, no associated increase in MMR or morbidity and no significant readmission¹². His study revealed significant association between patients' satisfaction and short hospital stay after elective C/S. Our results are comparable with 85.6% satisfaction in study group compared to 37.2% in control group.

In East Africa the trend was to keep patients for up to seven days, but this is being shortened. Fasubaa and Ogunnigi reported that patients with short hospital stay after C/S have better erect position, lower incidence of depression, lower neonatal sepsis, less hospital bill and more patient satisfaction. They concluded that, early home discharge after C/S in uncomplicated cases may remove some of the psychological upsets, economic impediment³.

Acknowledgement: We would like to express our gratitude to all registrars, medical staff, nurses and midwives in OMH who participated in this study. Thanks are extended to director general and other hospital staff for their co-operation.

Conflict of interest:

Here we declare no conflict of interest and we guarantee that: This article has not been published elsewhere, it is not being considered for publication elsewhere, it has been submitted with knowledge and approval of the institution given as affiliation of the authors.

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