

# COMPARISON OF EARLY VERSUS DELAYED FEEDING AFTER CAESAREAN SECTION UNDER REGIONAL ANAESTHESIA

SARA NIAZI, SIDRA NIAZI, RIZWANA TARIQ, FARHAT NAZ

*Correspondence: Dr. Sara Niazi (FCPS) Department of Obstetrics & Gynaecology, Postgraduate Medical Institute/ Ameer-Ud-Deen Medical College, Lahore General Hospital, Lahore. Email; drrehanniazi78@gmail.com*

## ABSTRACT

**Objective:** The objective of this study is to compare early versus delayed feeding, after caesarean section under regional anesthesia.

### Materials And Methods:

**Study Design:** Randomized controlled trial

**Duration of Study:** Study was completed from June to Nov 2014, at Lahore General Hospital Lahore.

**Data Collection Procedure:** Total 100 patients were included in the study and randomly divided into two groups. In group A patients were allowed oral liquids 3 hours post-operatively and solids diet 1 hour after the liquids and in group B patients were given oral liquids after the return of bowel sounds. Patients were monitored for development, if any, of signs of paralytic ileus (nausea, vomiting and abdominal distension). Time to return of bowel sounds and passage of flatus were noted, for all patients. Patients were discharged when patients tolerated oral feed well and remained symptom (of paralytic ileus) free for 24 hours and length of hospital stay was noted as well.

**Results:** There was no statistical difference in the number of patients who had symptoms of paralytic ileus, in two groups. Mean time to return of bowel sound ( $7.82 \pm 1.30$  versus  $12.08 \pm 1.87$  hours), time to passage of flatus ( $13.50 \pm 2.64$  versus  $17.42 \pm 1.75$  hours) and hospital stay ( $47.50 \pm 23.55$  versus  $77.92 \pm 22.48$  hours) was significantly lower in early fed group ( $p < 0.0001$ , for all three study end points).

**Conclusion:** Early feeding after caesarean section results in better recovery, early mobilization (which may result in less complications), shorter hospital stays and quick return to normal family life.

**Key words:** Late feeding, Early feeding, Caesarean section, Regional Anesthesia

## INTRODUCTION

Caesarean section is one of the most commonly performed surgical procedures.<sup>1,2</sup> Postoperative period after caesarean section (and other abdominal surgeries) demands meticulous care, due to the possibility of anaesthesia and procedure related complications.<sup>3,4</sup> One of the major post-caesarean challenges, usually, is the commencement of oral feeding, due to its strong association with breast feeding, wound healing, postop stress and hospital stay.<sup>5-7</sup>

Traditionally, patients are kept nil per oris (NPO) postoperatively, till the start of bowel motility and are started with liquids, followed by semi-solids and solids, after the bowel sounds are audible. In recent years, there has been an intense debate over this practice and many have suggested an early start of oral feed, after caesarean section.<sup>6</sup> Orji EO et al demonstrated a shorter mean time to return of bowel sounds, passage of flatus and bowel movement and a shorter hospital stay ( $p < 0.001$ ) associated with early feeding, when compared with delayed feeding.<sup>1</sup> In another study,

Mehta et al concluded that early fed patients had an early return of bowel movements and a shorter hospital stay ( $p < 0.001$ ).<sup>8</sup> But, Izbizky et al, in their study, found no statistical difference between early and delayed feeding, in terms of time to passage of flatus and hospital stay ( $p = 0.76$  &  $p = 0.16$  respectively).<sup>9</sup>

There was no data available, from Pakistan, on the effectiveness (or otherwise) of early feeding, in the postoperative period. We conducted this study to find out if early feeding, after caesarean section, offered any advantages over delayed feeding, in terms of time to return of bowel sounds and passage of flatus and hospital stay.

## METHODOLOGY

After obtaining approval from the institutional review board and ethics committee, this randomized clinical trial was conducted at Lahore General Hospital Lahore from May 2016 to December 2016. Using non-probability purposive sampling technique, 100 patients who fulfilled the inclusion and exclusion criteria and

were undergoing caesarean section under spinal/epidural anaesthesia, were inducted in the study. A written informed consent, explaining the process and purpose of the study was obtained from all the patients. Patients with co-morbidities like pregnancy induced hypertension, Diabetes, ante- or post-partum hemorrhage and multiple pregnancy and those with history of previous bowel surgeries, were excluded from the study. Similarly, patients who had intraoperative surgical complications like urinary bladder or bowel injury or obstetrical hysterectomy were not included in the study. Patients were divided into two groups, early fed group (group A) and late fed group (group B), using lottery method. In group A, patients were allowed oral liquids 3 hours after caesarean section and solid food 1 hour after the start of liquids, if liquids were tolerated i.e. there was no evidence of nausea, vomiting or abdominal distension. In group B, oral intake was allowed once presence of bowel sounds and passage of flatus was confirmed. Patients were discharged from hospital when they tolerated oral diet well and showed no evidence of ileus or febrile morbidity for 24 hours. Outcome variables i.e. time to return of bowel sounds, time to passage of flatus and hospital stay (in hours)

were noted, from the time of start of anaesthesia. All this data was collected using a predesigned proforma and analyzed using SPSS version 23.

## RESULTS

Mean maternal age in Group-A was  $28.48 \pm 4.09$  years and in Group-B was  $27.08 \pm 3.64$  years. Similarly, mean gestational age in Group-A was  $39.12 \pm 1.06$  weeks and in Group-B it was  $39.16 \pm 0.91$  weeks (Table I).

In both groups, incidence of nausea was almost similar i.e. 38% and 40% in group A and group B respectively. 7 (14%) patients in group-A and 9 (18%) patients in groupB developed vomiting, while 5 (10%) patients, in each group, developed abdominal distension.

Mean time to return of bowel sounds was found to be  $7.82 \pm 1.30$  and  $12.08 \pm 1.87$  hours ( $p < 0.0001$ ) in groups A and B respectively. Mean time to passage of flatus in group A was  $13.50 \pm 2.64$  hours and in group B it was  $17.42 \pm 1.75$  hours ( $p < 0.0001$ ). In group A, mean hospital stay was  $47.50 \pm 23.55$  hours and in group B it was  $77.92 \pm 22.48$  hours ( $p < 0.0001$ ) (Table II).

**Table I:** Maternal age, gestational age and parity, in study groups

Age Study N (Mean Group $\pm$ SD)	Gestational Age (Mean $\pm$ SD)	Parity 0-2 3-5	Signs of Ileus Abdominal Nausea Vomiting Distension
28.48 A 50 ( $\pm 4.09$ )	39.12 ( $\pm 1.06$ )	39 11 (78%) (22%)	19 07 05 (38%) (14%) (10%)
27.08 B 50 ( $\pm 3.64$ )	39.16 ( $\pm 0.91$ )	44 06 (88%) (12%)	20 09 05 (40%) (18%) (10%)

**Table II:** Time to return of Bowel sounds and passage of flatus and hospital stay

Time to return of Study Group (hours)	Time to passage of Bowel sounds (hours)	Hospital Flatus stay (hours)
(Mean $\pm$ SD)	(Mean $\pm$ SD)	(Mean $\pm$ SD)
7.82	13.50	47.50
( $\pm 1.30$ )	( $\pm 2.64$ )	( $\pm 23.55$ )
12.08	17.42	77.92

( $\pm 1.87$ )( $\pm 1.75$ ) ( $\pm 22.48$ )  $p$ -value  $< 0.0001 < 0.0001 < 0.0001$

## DISCUSSION

Post-operative oral feeding is usually withheld, as a tradition, until the passage of flatus and/or return of bowel sounds. The same has been a routine practice, in obstetrics, in Pakistan for decades, and patients are allowed oral intake after about 18-24 hours for the fear of development of nausea, vomiting and diarrhea. During the last decade or so, studies have demonstrated

that early feeding, during the post-operative period, is usually well tolerated and can benefit the patients.<sup>1, 8, 10, 12, 13</sup>

In our study, we found that there was no statistical difference, between the early fed and the late fed groups, in the frequency of symptoms of paralytic ileus i.e. nausea (38% and 40%), vomiting (14% and 18%) and abdominal distension (10% and 10%). These

finding were consistent with the results from other studies.<sup>1,8-13</sup> Orji EO et al demonstrated that difference between the two groups was not statistically significant, in terms of signs of paralytic ileus (nausea, vomiting and abdominal distension

( $p=0.733$ ,  $p=0.700$ ,  $p=0.733$  respectively)).<sup>1</sup> Shabeen N Masood et al, in their study involving 1174 patients, found no statistical difference, in terms of nausea, between two groups (6.8% and 4.6%, in early and late fed groups, respectively).<sup>11</sup> Adupa et al. also reported that the two groups were no different, with reference to the usually feared symptoms of ileus.<sup>12</sup>

This study demonstrated that the women in early feeding group had a shorter mean time to return of bowel sounds ( $7.82 \pm 1.30$  versus  $12.08 \pm 1.87$  hours) and mean time to passage of flatus ( $13.50 \pm 2.64$  versus  $17.42 \pm 1.75$  hours) ( $p < 0.0001$ ). Adupa et al. demonstrated that patients in early fed group had a rapid return of bowel sounds (24.2 h versus 34.2 hours) and passage of flatus (51.6 versus 62.1 hours).<sup>12</sup> Same were the finding from the study by Orji EO et al. who found a statistically significant difference, in favour of early fed group ( $p=0.001$ ). A study conducted by N Jalilian et al. concluded that early fed group had a significantly lower mean time to return of bowel sounds ( $p=0.0001$ ), but they found that mean time to passage of flatus was statistically not different between two groups ( $p=0.1$ ).<sup>10</sup>

Women in early fed group, in our study, recovered early and had a shorter hospital stay compared to those in late fed group ( $47.50 \pm 23.55$  and  $77.92 \pm 22.48$  hours respectively) ( $p < 0.0001$ ). The same was evident from the studies conducted by Orji EO et al. and Mehta S et al who found hospital stay to be shorter in early fed group ( $4.80 \pm 0.59$  versus  $6.69 \pm 0.71$  days and  $59 \pm 7.3$  versus  $88 \pm 9.5$  hours, respectively).<sup>1, 8</sup> Early resumption of oral feeding resulted in early mobilization and shorter hospital stay. Early discharge from hospital may help the patients to a quick return to normal family life, reduced complication rates and psychological stress and lower hospital bills.

Like all the other studies, our study had a few limitations. This study only examined the patients who had caesarean section under regional anaesthesia. In addition, it didn't study the patients undergoing emergency caesarean section.

## CONCLUSION

Early start of oral feeding, after caesarean section under regional anaesthesia, is safe and is associated with quick normalization of bowel habits, shorter hospital stays and quick resumption of normal life. Further studies are suggested to evaluate early feeding in other surgical patients, including those undergoing caesarean section

under general anaesthesia and those undergoing caesarean section for emergency indications.

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