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Original Research Article

EARLY VERSUS DELAYED MATERNAL ORAL FEEDING CAESAREAN DELIVERY

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Abstract

Background: Caesarean section is on the rise worldwide and has become a safe surgery due to better anaesthesia, asepsis, blood transfusion, and antibiotics. Traditionally, patients are kept nil orally until they pass through the flatus. This study aimed to evaluate the safety and efficacy of early feeding (within 2 hours) after caesarean delivery under spinal anaesthesia in both elective and emergency caesarean deliveries. **Materials and Methods:** A comparative study at the Government Medical College Hospital Virudhunagar from June to December 2021 randomly selected 400 women with various obstetric conditions and divided them into two groups. The control group (n=200) received oral fluids after bowel movement establishment, while the study group (n=200) was administered plain water 2 h post-surgery, followed by a semi-solid diet 4 h later. **Result:** Group A had earlier bowel sound detection at 12, 18, and 24 h (32, 95, and 73 patients, respectively) than Group B (7, 44, and 149 patients, respectively). Flatus passage occurred earlier in Group A (24 h) than in Group B (36 h). Significantly more Group A patients (120) passed stools within 48 h than Group B patients (32). Fewer Group A patients (6) required laxatives after 48 h than Group B patients (32). Neither group experienced complications, such as fever, sepsis, postoperative blood transfusion, or paralytic ileus. All the patients had GDM with insulin and abdominal wall oedema. Group B had a higher average IV bottle consumption. **Conclusion:** Early oral feeding is safe and associated with early ambulation, fewer intravenous fluids and analgesics are needed, and patient outlook is very good.

INTRODUCTION

Caesarean section is increasing globally,[1] and According to the World Health Organization,[2] its acceptable incidence should be 5–15%, but the previous recommendation of a 15% CS rate was withdrawn in June 2010. Their official statement read, 'There is no empirical evidence for an optimum percentage. CS has become extremely safe over the years; this has been possible owing to low transverse uterine and abdominal incisions, safe and better anaesthesia techniques, strict adherence to asepsis, antibiotics, blood and blood product availability, and high-quality suture material. Today, this procedure is so safe that caesarean delivery on maternal request (CDMR) has been accepted by many doctors and institutions.[3] Traditionally, patients undergoing abdominal surgery usually fast for the first 24 h of recovery. Delaying postoperative oral intake is based on the assumption that early feeding may impair surgical recovery and lead to ileus or other complications such as abdominal distension and aspiration.

A recent meta-analysis concluded that early oral intake after Caesarean section hastens the return of gastrointestinal function in the absence of gastrointestinal complications [4]. It was believed that the bowels needed rest after all abdominal surgeries, and feeding would interfere with the function of the resting bowels. This belief was not only prevalent among the lay public but even among the medical staff felt the same. Masood et al. [5] found in their study that 61.6% of the doctors in Obstetrics and Gynaecology had the perception that the early start of a solid diet may lead to ileus and wound dehiscence, whereas 3.4% feared burst abdomen. Early initiation of oral feeding mitigates the negative impact of the metabolic response to surgery and postoperative ileus. Thus, it reduced protein storage depletion, improved wound healing, and faster recovery. This pilot study was undertaken to introduce early oral feeding in uncomplicated CS and to determine the acceptability, tolerability, and gastrointestinal outcomes compared with traditional delayed feeding.

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Objective: This study aimed to evaluate the safety and efficacy of early feeding (within 2 hours) after caesarean delivery under spinal anaesthesia in both elective and emergency caesarean deliveries.

MATERIALS AND METHODS

This comparative study was conducted at the Government Medical College Hospital Virudhunagar from June 2021 to December 2021. A total of 400 patients were selected and they were divided randomly into two equal groups. This study was approved by the Institutional Ethics Committee before initiation, and informed consent was obtained from all patients.

Inclusion Criteria

Patients were selected from all groups, including elective section, emergency section, primary and repeat caesarean section, premature rupture of membrane, non-severe preeclampsia, and heart disease performed under spinal anaesthesia.

Exclusion Criteria

Patients with severe Preeclampsia on MGSO4, Eclampsia, any operative procedure that involved bowel handling (surgery extended to more than 60 min), extensive intraperitoneal adhesions, cases done under general anaesthesia, obstructed labour, and chorioamnionitis were excluded.

(Group A) Participants in the early feeding Group A commenced oral plain water 2 h after surgery, and the patient slept well for 3-4 hrs. Then, the patient is allowed to consume black coffee, tea, milk, rice kanji, idly, and plain water as per the patient's individual preference.

(Group B) Delayed feeding was started with oral fluids after 24 h or after the commencement of bowel sounds. The solids were started after the passage of the flatus.

Both groups were treated with Inj Ampicillin 1 g IV BD & Inj Gentamycin 80 mg IV BD (According to antibiotic policy of our hospital), Inj fortwin and Inj phenergan once they perceive pain (usually 2-3 hours after surgery), Inj tramadol was given when they complaints of pain afterwards.

Assessment was performed based on the following outcome: the primary outcome was the time interval for the return of bowel sounds. The secondary outcomes included passage of flatus, passage of stools, time taken for ambulation, amount of intravenous fluids, analgesic requirement, and patient satisfaction.

Statistical Analysis

Data were presented as frequency and percentage. Categorical variables were compared using the Pearson chi-square test. Significance was defined by P values < 0.05 using a two-tailed test. Data analysis was performed using IBM-SPSS version 21.0 (IBM-SPSS Science Inc., Chicago, IL).

RESULTS

Out of 1200 patients according to the inclusion criteria, 400 who underwent caesarean section during the study period were selected and analyzed. The general parameters of both groups were comparable [Table 1].

The abdomen was auscultated for six hours to find out the appearance of bowel sounds. In Group A bowel sounds were detected within 12 h in 32 patients, 18 h in 95 patients, and within 24 h in 73 patients. On the contrary, the corresponding figures were 7, 44 and 149 in 12, 18 and 24 h in Group 2; indicating that bowel sounds were heard earlier in Group A, and the difference in the return of bowel sounds was significantly earlier in Group A.

The time of passage of the flatus was 24 and 36 h in Groups A and B, respectively. 120 patients in Group A had passes stools within 48 h, while only 32 patients did so in Group B, with a statistically significant ($p<0.0001$). 32 patients in Group B were administered laxatives for relief of constipation after 48 h and only 6 patients required laxatives in Group A. No case was administered an enema to relieve constipation.

No incidences of fever, sepsis, postoperative blood transfusion, or paralytic ileus were recorded in either group. Wound infection occurred in two patients in the early feeding group and four patients in the delayed feeding group. All 6 patients had GDM on insulin and had abdominal wall oedema. The average number of IV bottles consumed in both groups was noted, with a greater number of intravenous bottles consumed in Group B [Table 2].

Table 1: General parameters between groups.

Parameters		**Group A (n=200)**	**Group B (n=200)**	**P value**
Age	**Range**	**20-34**	**20-34**	
Gravida	Primigravida	120 (60%)	112 (56%)	0.418
	Multigravida	80 (40%)	88 (44%)	
Anaesthesia	Spinal	200 (100%)	200 (100%)	NA
Type of CS	Elective	82 (41%)	76 (38%)	0.539
	Emergency	118 (59%)	124 (62%)	

Table 2: IV fluid requirement, analgesics, return of bowel, and complications between the groups

Parameters		**Early feeding (Group A)**	**Delayed feeding (Group B)**
IV Fluid requirement	Day of surgery	3	5
	POD 1	2	5
	POD 2	Nil	3
Analgesics	Inj Fortwin & Phenergan	1	1

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	Inj. Tramadol	1	2-3
Day of Surgery	POD 1 Inj Tramadol	1	2
	POD 2 Inj Tramadol	Nil	2
Passage of flatus		12 h	36 h
No. of patients with stools within 48 h		120	32
No. of patients in need of laxatives after 48 h		6	32
Complication	Wound infection	2	6

DISCUSSION

Delay in initiation of oral feeding until bowel sounds appear in traditional Practice in India because of the fear of the development of paralytic ileus. Non-obstetric paralytic ileus is mainly caused by infections, and aseptic procedures can prevent morbidity. Our study confirms the absence of an association between paralytic ileus and early feeding. Early oral feeding has been shown to mitigate the negative impact on the metabolic response to surgery. Therefore, it reduced protein storage depletion, improved wound healing, and faster recovery. The early feeding group was ambulant very early and was eligible for earlier discharge. The early feeding group had a significantly shorter postoperative time interval for the return of bowel sounds (10 vs. 22 ± 2 h). Group A patients were ambulant by 8-10 h whereas group B required >24 h. There were two patients with wound infection in the early feeding group and four patients in the delayed feeding group. All 6 patients had GDM on insulin and had abdominal wall oedema. Cortical vein thrombosis and sepsis were not reported in both groups.

This paralytic ileus is believed to last for up to 24 h in the small intestines,[6] 24-48 h in the stomach and 48-72 h in the colon. Our study demonstrated that early oral feeding resulted in the rapid return of bowel function. Early feeding should improve symptoms that occur due to bowel paralysis/dysmobility, especially in uncomplicated patients with CS, where bowel manipulation is minimal. Nil patients in both groups.[7,8]

Early feeding did not increase gastrointestinal symptoms. Many studies have reported that the acceptance and tolerance of early oral feeds are very good.[9,10] Another advantage was that those who were fed early required fewer IV fluid bottles.

Sumita et al,[11] concluded in their study that early oral intake following uncomplicated caesarean section is safe and well tolerated; produces a better outcome, compared to delayed feeding, without causing any significant increase in postoperative morbidity, including paralytic ileus; and results in higher patient satisfaction. Our study also confirmed that early oral feeding after uncomplicated CS is well tolerated. There was no untoward event that could justify withholding oral feeds until the passage of flatus, as is conventionally done. One of the major concerns is the effect of early feeding on wound healing.[6] A study conducted by Razmjoo et al,[12] reported that this practice did not interfere with wound healing. Bowel movements can be stimulated by early feeding, and chewing gum after surgery is known to stimulate the bowels.[13]

CONCLUSION

Early initiation of oral feeding after caesarean delivery is safe and associated with many advantages such as early ambulation, fewer IV fluids and analgesics, and high levels of maternal satisfaction. Therefore, women without bowel handling during caesarean delivery can be offered an early initiation of oral feeding. Patient satisfaction was very good in the early feeding group in the form of self-cleanliness, taking feeds themselves, feeding their baby with minimal help, doing postoperative exercises, and being receptive to house surgeons, our postgraduates, and staff nurses.

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