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A Comparative Study of Early Versus Delayed Postoperative Oral Feeding in Women Undergoing Cesarean Section under Regional Anaesthesia

Virendra Malav[1], Kapil Sharma[2], Ashwini Nagar[3], Rajan Nanda[4]

[1]Post Graduate (3rd year resident), Department of Anaesthesiology, JhalawarMedical College, Jhalawar, Rajasthan, India
E mail ID: *dr.virendramalav[at]gmail.com*

[2]Post Graduate (3rd year resident), Department of Anaesthesiology, JhalawarMedical College, Jhalawar, Rajasthan, India
E mail ID: *kapils642[at]gmail.com*

[3]Post Graduate (M. D. Anaesthesia)
E mail ID: *drashwininagar[at]gmail.com*

[4]Senior Professor and H. O. D., Department of Anaesthesiology, JhalawarMedical College, Jhalawar, Rajasthan, India
E mail ID: *drrajnandajmc[at]gmail.com*

Abstract: ***Introduction: This study was aim to analyze the impact of early postoperative oral feeding as compared to conventional delayed feeding on maternal satisfaction, duration of hospital stay, comparing the efficacy and side effects in patients with LSCS under regional anaesthesia. Material and Methods: This study was carried out with 120 patients undergoing LSCS under spinal anaesthesia. Two groups of 60 patients each. Early feeding group patients were given oral feeding after 2 hours of surgery starting with 150 ml of water. Delay feeding group patients were given oral feeding after 10 hrs starting with 150 ml of water. Their flatus, bowel movement, full ambulation time, hospital stay duration and side effects were noticed. Results: Early feeding group had early onset of bowel activity with less IV fluid demand, less hospital stay, early mobilization, less degree of postop pain with less side effects. Conclusion: Early feeding is found better in terms of early return of bowel activity, early ambulation, reduced demand of iv fluids, less post - operative pain, less need of post - operative analgesia associated with decreased duration of hospital stay. Thus, early feeding in post - operative period in cesarean section patients is better than conventional delayed feeding.***

Keywords: LSCS, Early Feeding, Early Ambulation

1. Introduction

Cesarean section is one of the most commonly performed surgical operation inobstetrics.**1**It has been defined as the delivery of a fetus through a surgical incision on the anterior abdominal wall and into the uterine wall after 28 weeks of gestation.2

Controversies exist in the area of surgical technique – closure or non closure of the peritoneum, exteriorization of the uterus or not during repair, one layer suturing of the uterus or two layers suturing as well as packing of the abdomen or not. Controversies also exist in the post–operative management. One of this is the time of commencement of oralsips.3 - **4**

However in case of cesarean sections as compared to other abdominal surgical procedures there is generally minimal bowel manipulation as well as the duration of surgery is relatively short thus bowel functions are restored early.5

Commencing oral feeding within six hours of uncomplicated cesarean section has been noted to be associated with rapid return of bowel sounds, quicker post – operative recovery, less post – operative pain and increased patient satisfaction.

The aim of the study was to analyze the impact of early postoperative oral feeding as compared to the conventional delayed feeding on maternal satisfaction, duration of hospital stay, comparing the efficacy and side effects in patients with LSCS under regional anaesthesia.

2. Review of Literature

Mohammad EEH (2019) [(6)] Conducted a study to evaluate the effect of early postoperative oral hydration on reducing paralytic ileus among abdominal surgery patients. A purposive sample of total 222 study participants, 111 in experimental and 111 in control group based on inclusion and exclusion criteria. Among the studied participants in both intervention and control group, it is seen that there was a highly statistical significance difference between both groups regarding postoperative abdominal distension, drowsiness, and nausea ($p<0.001$). They concluded that early postoperative oral hydration reducing paralytic ileus among abdominal surgery patients.

Arif N et al (2020) [(7)] Conducted their study of "impact of early vs delayed oral feeding on hospital stay after cesarean section under regional anaesthesia" on 200 patients and they found that hospital stay was short in early feeding group being (19 ± 1.95) hours versus (29 ± 6.7) hours (p - value 0.03) in delayed feeding group. Early feeding group has higher level of satisfaction 80% as compared to 49% in delayed feeding group (p - value <0.04). They concluded that early feeding after uncomplicated cesarean section under regional anaesthesia in low risk women resulted in

short hospital stay, higher level of maternal satisfaction and is as safe as traditional approach.

Atef A et al (2021) [8] Conducted a randomized control study on 300 pregnant women with aimed to starting oral feeding after cesarean section enhances bowel function return, patient's ambulation, and patient recovery and evaluate effectiveness of two different approaches of oral feeding following caesarean section on gastrointestinal function, and patient satisfaction.

Significant differences were noticed in patients' satisfaction and time interval to return of gastrointestinal function, ambulation, regular diet, and hospital stay between the three groups and between the two groups of early feeding (p value <0.05 for all) with highest satisfaction and shortest intervals noticed at introducing soft foods early irrespective of return of intestinal sounds (In early feeding group). Non - significant differences noted concerning postoperative complications between the three groups or between the two groups of early feeding apart from vomiting found to be higher in the early feeding groups, but the cases were mild and easily treatable.

They found in their study that early oral feeding reduces the time needed for normal bowel function return and increases satisfaction of the patients with no detrimental significant effects on the gastrointestinal complication.

3. Materials and Method

The study included 120 patients undergoing surgery under spinal anaesthesia. The study was conducted after the approval from ethical committee of the institution. Written Informed consent was obtained from all patients. The patients were divided in two groups by sealed envelope method. Group–F (n=60) patients received early feeding, Group - N (n=60) patients received conventional feeding. Preoperative PAC was done with all mandatory basic investigations. Only fit patients with ASA grade I/II, height ≥150 cms, age between 21 - 40 yrs, wt 50 - 80 kg with no known allergy to any substance were allowed to be included in study. Patients with refusal, H/O Acute infection, fever, sepsis, contraindications to spinal block, Patient who had undergone any abdomen surgery in past, Patient who are not fully recovered from spinal effect, Twin pregnancy, History of PIH/ Preclampsia/ Eclampsia/ Anaemia/ Gestational Diabetes Mellitus, Any history of diabetes/ neurological disorder, Any history of chronic constipation, Patients who were given sedative drugs during operation, Patient refusal, were excluded from study.

The patients who are meeting in our inclusion criteria and not in exclusion criteria will be selected for the study. They are divided into 2 Groups, Group - F (n=60) the feeding group and Group - N (n=60) delayed feeding group after assessing their vitals like BP, pulse rate, saturation, their consciousness level, the level of their spinal effect.

After confirming their spinal effect has gone and they are firmly conscious and vitals are stable, in the study group patient will be given oral feeding after 2 hours of surgery starting with 150 ml of water in front of observer followed by tea with biscuits after 2 hours followed by juice after 4 hours this fluids will be taken sip by sip in strict observation of the researcher.

In the control group patients are given oral feeding after 10 hrs starting with 150 ml of water.

Hydration level of the patients will be seen and any need of IV fluids will be noticed. Their flatus or blench will be noticed. Time will be noted for full ambulation of patients, time of Foley's catheter removal, hospital stay duration.

Any side effects like fever, nausea, vomiting, abdominal distension, constipation and paralytic ileus will be noticed and will be treated accordingly.

Parameters of Observation

A total of one hundred and twenty (120) patients who met the eligibility criteria were randomized to have oral sips commenced within 2 hours of cesarean section. And they were noted continuously for following observations: -

1) Physical examination of the patient.
2) Incidence of side effects like Fever, Nausea, Vomiting, Abdominal distention, Constipation, Incidence of paralyticileus.
3) Time of onset of bowel sound in the two groups.
4) Rate of post - operative ambulation (time interval between surgery and full ambulation)
5) Pain by 4 point verbal score and number of opioid analgesics required.

4. Results

The following observations were noted during the study -

Table 1: Onset of Bowel Activity and Noticed Flatus

Onset of Bowel Activity	Study Group (FN=60)		Study Group (NN=60)		P- value	Interpretation
	Mean	SD	Mean	SD		
Time of full bowel sound (hrs)	8.10	0.40	15.50	5.46	0.0013	Statistically Significant
Time first noticed flatus/belch (hrs)	13.33	1.16	24.22	4.36	0.0028	Statistically Significant

Table II: Duration of IV Fluids / Hospital Stay

Duration of IV fluids / hospital stay	Study Group (FN=60)		Study Group (NN=60)		P- value	Interpretation
	Mean	SD	Mean	SD		
Duration of IV Fluids (Hrs)	19.48	1.85	28.77	5.45	0.0406	Statistically Significant
Duration of Hospital stay (Hrs)	103.90	10.41	151.58	9.03	0.0467	Statistically Significant

Table III: Time to Ambulation Post Operation

Group	Number of Patients	Time of Full Ambulation		P- value	Interpretation
		Mean	SD		
Group F	60	13.97	1.33	0.0009	Statistically Significant
Group N	60	27.43	1.99		

Table IV: Degree of Post Operative Pain Using Number of Opioid Analgesics

Group	Number of patients	Number of Opioid Analgesics given (Number)		P - value	Interpretation
		Mean	SD		
Group F	60	2.13	3.35	0.0189	Statistically Significant
Group N	60	0.50	0.63		

5. Discussion

A total of one hundred twenty (120) patients who met the eligibility criteria were randomized to two group each one have Sixty (60) patients in which one (Group F) have oral sips commenced within 2 hours of Cesarean section and another one (Group N) have oral sips within 10 hrs of cesarean section. Both the groups were comparable for Profile of patients, Duration of the Surgery, Pre - operative and post - operative vitals like TEMPERATURE, SPO2, PR, MBP, SBP, DBP, URINE OUTPUT were with p value (>0.05).

Onset of bowel activity
There was a statistically significant difference in the onset of bowel activity. Bowel sound was noticed at 6 hours in the study group F (absent (36), scanty (22) full bowel sounds (2) which was better as compared to study group (absent (54), scanty (5) full bowel sounds (1).

Bowel sound was noticed at 8 hours in the study group F (absent (1), scanty (4) full bowel sounds (55) which was better as compared to study group (absent (36), scanty (18) full bowel sounds (6).

The time full bowel sound was noticed in hours was earlier in the study group F and it was statistically significant. The mean time of full bowel sound noticed in study group F was 8.10+/ - 0.40 hrs versus study group N (15.50+/ - 5.46) hrs with p value (0.0013) statistically significant. The time of passage of first flatus or belching indicating presence of bowel activity was also recorded and analyzed. The time of passage of first flatus or belching was noticed in hours was earlier in the study group F and it was statistically significant. The mean time of passage of first flatus or belching noticed in study group F was (13.33+/ - 1.16) hrs versus study group N (24.22+/ - 4.36) hrs with p value (0.0028) statistically significant. Our study was comparable with studies of Chantarasorn V et al (2006) [(9),] Al - Ghareeb SA et al (2013) [(11),] Devi SS et al (2015) [(13).]

Need of IV Fluids, Duration of Hospital Stay
The mean duration of IV fluids in group F was (19.48+/ - 1.85) hours as compared to group N with (28.76+/ - 5.45) hours. The need of iv fluids duration in study group F was less then study group N with p value 0.0406 statistically significant. The mean duration of hospital stay in group F was (103.9+/ - 10.41) hours as compared to group N with (151.58+/ - 9.03) hours. The mean duration of hospital stay in study group F was less then study group N with p value (0.0406) statistically significant. Our study was comparable with studies of Al - Ghareeb SA et al (2013) [(11),] Devi SS et al (2015) [(13),] Mohamed AHG et al (2018) [(14).]

Time to ambulation in the post – operative period
The time to ambulate in the post - operative period was earlier in the study group F compared with the control group N. (13.97+/ - 1.33) hrs versus (27.43+/ - 1.99) hrs respectively, p value (0.0009) statistically significant. Our study was comparable with studies of Al - Ghareeb SA et al (2013) [(11)] Jalalian N et al (2014) [(12).]

Degree of Post – Operative Pain
This was determined by using the 4 Point Verbal Pain Score and the number of opioid analgesics used by the patient. There was a statistical significant difference in the number of opiod analgesic used. The study group F required less number of opiod analgesics when compared with the study group N (2.13+/ - 0.50 versus 3.35 +/ - 0.63), p value (0.0189) statistically significant.

The assessment of post – operative pain usingthe4 point verbal pain score. It shows that the study group experienced pain of less severity compared to the control group, (pearson chi - square<0.0001). Out of patients who perceived mild pain, (84.37 %) were from study group F while (15.63 %) were from group N., only (10.71 %) patients from group F had moderate pain against (89.29 %) of the group N. None of the two group reported incidence of severe post – operative pain. . Our study was comparable with studies of Izbizky GH et al (2008) [(10).]

Incidence of Gastro Intestinal Morbidity (Side Effects)
The incidence of gastro intestinal morbidity as judged by the incidence of fever, nausea/vomiting, abdominal distention, paralytic ileus and constipation were minimal and they were similar in both group. They were not statistically different. There were three cases of nausea/vomiting in each group, one case of abdominal distention in each group, and one case of constipation in the group F and three cases in the group N.

6. Future Scope

This study shows that early feeding postoperatively, is better in terms of early return of bowel activity, early ambulation, reduced demand of iv fluids, less post - operative pain. Thus further studies have to be conducted to precisely known the time of enteral feeding with minimal complications.

7. Conclusion

Early feeding is found to be better in terms of early return of bowel activity, early ambulation, reduced demand of iv fluids, less post - operative pain, less need of post - operative analgesia associated with decreased duration of hospital stay. This is been proven from this study that early feeding in post - operative period in cesarean section patients is better then conventional delayed feeding with better patient satisfaction level and preference.

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Author Profile

Dr. Virendra Malav 32 years old from Baran, Rajasthan, doing my third year residentship in the department of Anaesthesiology, Jhalawar medical college, JhalawarRajasthan. I completed my U. G. in SMS medical college, Jaipur Rajasthan. I am passionate about critical care. E mail ID: dr. virendramalav[at]gmail.com
Mob No. - 9462967559

Dr. Kapil Sharma is 31 years old from Kota, he is doing his third year residentship in the department of Anaesthesiology, Jhalawar medical college, JhalawarRajasthan. He completed his U. G. from NIMS Jaipur Rajasthan. He has a passion for critical care.
E mail ID: kapils642[at]gmail.com
Mob No - 7976555077

Dr. Ashwini Nagar is 36years old from Baran, Rajasthan, was my current senior and has done residentship in the department of Anaesthesiology, Jhalawar medical college, Jhalawar, Rajasthan. He completed his U. G. from Govt. Stanley medical college, Chennai. He is passionate about critical care. E mail ID: drashwininagar[at]gmail.com
Mob No.7014409309

Dr Rajan Nanda is 64 years old from Udaipur Rajasthan, he has done his undergraduate and postgraduate in Anaesthesia and Critical Care from RNT Medical College Udaipur. He is senior professor and Head OF Department in Jhalawar medical college (Dept of Anaesthesiology). Mob No.9829040412
E mail ID: drrajnandajmc[at]gmail.com