

Uncomplicated Caesarean Section: is Delayed Return to Oral Feeding Necessary?

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OBJECTIVE: To assess the feasibility and practicability of resuming oral feeding six hours after caesarean section.

METHODS: Eighty five women undergoing primary caesarean section at proprietary hospital in Lagos Nigeria were randomised into two groups of commencement of oral feeding six hours after surgery and waiting for at least 24hours for bowel sounds to return.

RESULTS: In 27(64.3%) of the 42 patients in the routine feeding group, normal bowel sounds were present about 24hours after the operation as against 37(86.0%) of 43 in the early feeding group ($X^2 = 5.41$; $p = 0.02$, OR = 3.43 ; 1.06 – 11.5). While 93.0%(40) of the patients in early feeding group had bowel motion within 48hours, only 69.0%(29) of the patients in the routine feeding group had bowel motion within same period ($X^2 = 6.50$; $p = 0.01$). The percentage of mothers that were ambulant within 48hours were more in the early feeding group (83.7%) compared to the routine feeding group (61.9%) ($X^2 = 5.12$; $p = 0.02$). The overall gastrointestinal morbidity among the early feeding group was higher (18.6%) compared to routine feeding group (11.9%) but the difference was not statistically significant ($X^2 = 0.13$; $p = 0.72$, OR = 1.54; CI = 0.38 – 6.33).

CONCLUSION: Early oral feeding is not only feasible but practicable.

Key words: Caesarean Section, Oral Feeding

Eighty five women undergoing primary caesarean section for various indications at proprietary hospital in Lagos, Nigeria during the period 1st July 2003 to 31st June 2004 were recruited for the study.

Havana Specialist Hospital is a private tertiary institution located in the Nigerian foremost city of Lagos. The hospital is a multi-disciplinary hospital catering to the upper socioeconomic strata of the society. There are no restrictions in the type or range of patients accepted but the relatively high cost of services practically excludes lower and middle social class except those on managed care.

The exclusion criteria include patients with imminent eclampsia/eclampsia previous caesarean section, prolonged rupture of fetal membranes and prolonged and/or obstructed labour.

Ethical clearance was obtained from the institutions Ethical Committee before the commencement of the study.

The women recruited into the study were assigned randomly to one of two groups - commencement of oral feeding six hours after caesarean section without checking for presence or otherwise of bowel sounds and a control group (commencement of oral feeding after 24hours and only when bowel sounds are present and normal). A computer generated random sampling method was used to assign patients into groups after subjects' informed consent had been obtained.

All the caesarean sections were performed by consultant staff through a Pfannenstiel skin incision and lower segment uterine approach. The uterine incisions were closed in two layers using chromic catgut (ccg) suture size

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2, followed by ccg suture size 00 for the peritoneal layers. The rectus sheet was closed continuously using ccg suture size 1 and plain ccg suture size 00 for the apposition of subcutaneous layer. The skin was closed subcuticularly with ccg suture size 00. The only intervention difference between the two groups was on the time of commencement of oral feeding.

Early feeding group

Patients in this group were commenced on oral feeding six hours after surgery without checking for bowel sounds. They were commenced on graded oral sips of liquid starting from 10mls and increase as tolerated. Once the patients tolerated 100mls of water she was allowed to progress from cereals and then to solid foods; the drugs were then changed to the oral route and intravenous line discontinued. The oral feeding was discontinued if there was severe abdominal colic, distension or vomiting.

Routine feeding group

In this group of patients, feeding was delayed till 24hours after surgery and was commenced if bowel sounds was present and normal. Feeding was graded as in the early feeding group. Oral feeding was delayed if bowel sounds were absent or infrequent. Graded oral feeding was discontinued if there was abdominal distention, pain or vomiting.

Presence or absence of bowel sound was checked 24hours after surgery in both groups. All the patients had extended prophylactic antibiotics of ampicillin, gentamicin and metronidazole for five days. Urinary catheters were removed about 24 hours after surgery. Analgesia was achieved by intramuscular pentazocine 60mg 6hourly for 24hours and paracetamol 1000mg 8hourly for three days if oral intake had resumed.

All the women were encouraged to ambulate. The surgical wounds in all patients were inspected on postoperative day three and thereafter all wounds were left open. Patients were discharged on the postoperative day five except where postoperative complications necessitated extended hospital stay.

The time of first bowel motion and occurrence of gastrointestinal morbidity

(abdominal distension, nausea and vomiting) were noted. A blinded observer who was not aware of the grouping of the patients examined all women on day six for mobility and patient satisfaction. The hospital bills incurred by each patients and the opinion of the nursing personnel were sought.

The collected data were analyzed with comparisons between the two groups using chi-square with Yates correction and student t test as appropriate. The odds ratio and the 95% confidence interval were calculated where appropriate. A p value <0.05 was considered significant.

Results

During the period of study, a total of 106 caesarean sections were performed. Of these, eighty eight met the eligibility criteria and were randomised into two groups of early and routine feeding. However three cases (one of early and two of routine feeding) were excluded from the analysis because of severe adhesions necessitating adhesiolysis and protracted surgery or severe postpartum haemorrhage necessitating hysterectomy.

Tables I and II show patients' data and indications for caesarean section. There were no significant differences between the two groups.

Table III shows the summary of the outcome of observation and interviews at the postoperative day six among the two groups. The overall gastrointestinal morbidity among the early feeding group was higher (18.6%) compared to routine feeding group (11.9%), but the difference was not statistically significant ($X^2 = 0.13$; $p = 0.72$, OR = 1.54; CI = 0.38 – 6.33). The morbidities encountered in the two groups resolved within few hours delay or withdrawal of feeding. In 64.3% (27) of the 42 patients in the routine feeding group, normal bowel sounds were present 24hours after the operation as against 86.0% (37) of 43 in the early feeding group. The difference was statistically significant ($X^2 = 5.41$; $p = 0.02$, OR = 3.43 ; 1.06 – 11.5). By 48hours all patients except two patients in routine feeding group had established bowel sounds.

Table I: Demographic characteristics of the study subjects

characteristics	E n = 43	R n = 42	x ² or t test	P value	odd ratio	confidence interval
age years:(mean ± SD)	28.3±7.5	28.2±7.6	1.43	0.16*	-	-
mean parity	2.9±1.6	2.8±1.7	1.45	0.16*	-	-
booking status						
booked	34(79.1)	31(73.8)				
unbooked	9(20.9)	11(26.2)	0.33	0.56 χ^2	1.34	0.44 – 4.12

- numbers in parenthesis are in percentages. SD = standard deviation, * = students t test.
- χ^2 = chi square. E = early feeding group, R = routine feeding group

Table II: Indications for caesarean section in both groups.

indications	E n=43	R n=42
cephalopelvic disproportion	13(30.2)	15(35.7)
fetal distress	12(27.9)	9(21.4)
anteartum haemorrhage	4(9.3)	6(14.3)
abnormal lie/malposition	6(14.0)	4(9.5)
pregnancy induced hypertension	3(7.0)	4(9.5)
bad obstetric history	2(4.7)	3(7.1)
ivf/icsi pregnancy	3(7.0)	1(2.3)
human immunodeficiency virus infection	0(0)	1(2.3)

Nnumbers in parenthesis are in percentages. E = early feeding group, R = routine feeding group

Table III: Comparison of the outcomes observed in both groups.

outcome	E n = 43(%)	R n = 42(%)	x ²	P value	OR	CI
bowel sound present within 24hours	37(86.0)	27(64.3)	5.41	0.02	3.43	1.06-11.5
bowel motion within 48hours	40(93.3)	29(69.0)	13.4	0.0002	5.63	2.02-16.5
gastrointestinal morbidity	8(18.6)	5(11.9)	0.13	0.72	1.54	0.38 – 6.33
• abdominal distension	3	1				
• abdominal colic	4	3				
• vomiting	1	1				
ambulation within 48 hours	36(83.7)	26(61.9)	9.24	0.02	3.27	1.47-7.36

E = early feeding group, R = routine feeding group, CI= confidence interval, OR= odd ratio

All but three 93.0% of the patients in early feeding group had bowel motions within 48hours compared to only 69.0% (29) of the patients in the routine feeding group. The remaining three patients in early feeding group had bowel motion within 54hours as against having to wait up till 96hours after surgery like the remaining thirteen patients in the routine group.

The percentage of mothers that were ambulant within 48hours was more in the early feeding group (83.7%) and was significantly higher than 61.9% in the routine feeding group. The difference was statistically significant ($p = 0.02$). The remaining women in both group were all ambulant in the next 24hours.

All the women in the early feeding group were highly satisfied with commencement of oral feeding early except in two patients who had abdominal distension and felt that their problem is as a result of early feeding. They wished their feeding have been delayed a bit more, especially as their symptoms resolved within 24hours of withdrawing feeds. Among the patients in the routine feeding group, 38(90.5%) would have liked to have commenced on feeding earlier than was started. Also, all the patients in early feeding group expressed satisfaction on the early discontinuation of the intravenous line as it permitted unencumbered early mobility to take care of their baby and attend to personal toilet needs.

The nursing staff preferred the early feeding method because it reduced the patients' dependence on them for their toilet needs and care of their babies.

Discussion

Early postoperative oral feeding after abdominal surgery has been the goal of surgeons for several decades. The traditional teaching of generalized postoperative ileus after abdominal surgery has been shown not to be invariably correct⁹. It is now recognized that the inability to tolerate fluids after an operation is commonly a consequence of failure of the flow to reach the small bowel rather than the inability of the segment to accept it¹⁰. Also the impaired gastric function in the early postoperative period has been

shown to be significantly related to drugs administered in the postoperative period¹¹. And in operation like caesarean section where there is minimal handling of the intestines, these derangements are likely to be very minimal or nonexistent.

Our report confirmed the findings of Ingram and Sheiner¹¹, Guedj⁶ and kramer⁷, that early alimentation has a stimulating effect on the gut mobility; 90.7% of the early feeding group had bowel motions within 24hours compared with only 71.4% in the routine feeding group. This finding is in agreement with the report of Al- Takroni⁴.

Though the gastrointestinal morbidity was higher in the early feeding group compared with their routine feeding counterpart, the difference was not statistically significant and the morbidities were very mild discomfort. More importantly, all resolved without medication within 24hours of withdrawal of feeds.

It is possible that the comparatively higher ambulatory rate in early feeding group may be attributable to early discontinuation of intravenous line. Al-Takroni⁴ in his earlier report had showed the negative influence on mobility and patient comfort by intravenous line. Early discontinuation of intravenous line encourages early ambulation and thus reduces the risk of post caesarean thromboembolism. It must also be considered that in our environment the desire not to allow distant relations know that delivery was by caesarean section may have contributed significantly.

The women in the early feeding group were highly satisfied with early feeding. This may be because our women do not want their friends and distant relations to know that they had caesarean delivery¹ and intravenous lines and delayed oral feeding is a pointer to caesarean section. Any practice that will not highlight or show that mode of delivery is by caesarean section will be welcomed.

Early feeding and ambulation not only reduces cost, but work load for the medical staff will also be reduced, and it was not surprising that the nursing staff expressed satisfaction with it. In addition, embracing early feeding after an uncomplicated

caesarean section may alleviate the fear, misconception and psychologic upset. It also lowers hospital bills, early convalescence, avoids embarrassment and increases acceptance of caesarean delivery.

Conclusion

In conclusion this study has shown the feasibility and some inherent advantage of early oral feeding after an uncomplicated caesarean section and thus the fears are not justified.

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