Early Versus Delayed Postoperative Feeding After Major Gynaecological Surgery and its Effects on Clinical Outcomes, Patient Satisfaction, and Length of Stay: A Randomized Controlled Trial

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Abstract

Objective: To compare early versus delayed postoperative feeding in women undergoing major gynaecological surgery with regard to clinical outcomes, duration of postoperative stay, and patient satisfaction.

Methods: We conducted a parallel-randomized controlled trial at a tertiary care centre in Montreal, Quebec, between June 2000 and July 2001. Patients undergoing major gynaecological surgery were randomized following a 1:1 allocation ratio to receive either early postoperative feeding in which oral clear fluids were begun up to six hours after surgery followed by solid foods as tolerated, or delayed postoperative feeding, in which clear fluids were begun on the first postoperative day and solid foods on the second or third day as tolerated. The primary outcomes analyzed were duration of postoperative stay and patient satisfaction. Secondary outcomes included mean time to appetite, passage of flatus, and bowel movement, as well as the presence of symptoms of paralytic ileus.

Results: A total of 119 patients were randomized; 61 patients were assigned to the early feeding group and 58 to the delayed feeding group. Demographic characteristics, including age, weight, smoking status, and prior surgical history were comparable between both groups. There was no difference in length of postoperative stay between the two groups (86.4 ± 21.0 hours in the early feeding group vs. 85.6 ± 26.2 hours in the delayed feeding group; $P > 0.05$). No significant difference was noted in patient satisfaction ($P > 0.05$). No difference was found in the frequency of postoperative ileus, mean time to appetite, passage of flatus, or first bowel movement.

Conclusion: The introduction of early postoperative feeding appears to be safe and well tolerated by patients undergoing major gynaecological surgery. The duration of postoperative stay, patient satisfaction, and gastrointestinal symptoms are comparable between patients undergoing early or delayed postoperative feeding.

Key Words: early postoperative feeding, major gynaecologic surgery, length of postoperative stay, patient satisfaction.

Competing Interests: None declared.

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Résumé

Objectif : Comparer, chez des femmes devant subir une chirurgie gynécologique majeure, les effets de la reprise postopératoire précoce ou différée de l'alimentation en ce qui a trait aux résultats cliniques, à la durée de l'hospitalisation postopératoire et à la satisfaction de la patiente.

Méthodes : Nous avons mené un essai comparatif randomisé parallèle dans un centre de soins tertiaires de Montréal, au Québec, entre juin 2000 et juillet 2001. Les patientes devant subir une chirurgie gynécologique majeure ont été affectées au hasard (selon un ratio d'attribution 1:1) à un groupe devant connaître une reprise postopératoire de l'alimentation précoce (dans le cadre de laquelle l'administration de liquides clairs par voie orale a été entamée dans les six heures suivant la tenue de la chirurgie, suivie de celle d'aliments solides, en fonction de la tolérance) ou différée (dans le cadre de laquelle l'administration de liquides clairs a été entamée au cours de la première journée postopératoire et celle d'aliments solides, au cours de la deuxième ou de la troisième journée postopératoire, en fonction de la tolérance). Les principaux critères d'évaluation analysés ont été la durée de l'hospitalisation postopératoire et la satisfaction de la patiente. Parmi les critères d'évaluation secondaires, on trouvait le délai moyen avant le retour de l'appétit, de l'expulsion

de flatuosités et de la défécation, ainsi que la présence de symptômes d'iléus paralytique.

Résultats : Au total, nous avons recruté 119 patientes : 61 patientes ont été affectées au hasard au groupe « alimentation précoce » et 58, au groupe « alimentation différée ». Toutes les participantes comptaient des caractéristiques démographiques (dont l'âge, le poids, le statut quant au tabagisme et les antécédents chirurgicaux) comparables. Aucune différence n'a été constatée entre les deux groupes en ce qui concerne la durée de l'hospitalisation (86,4 ± 21,0 heures au sein du groupe « alimentation précoce » vs 85,6 ± 26,2 heures au sein du groupe « alimentation différée »; P > 0,05). Aucune différence significative n'a été constatée en matière de satisfaction de la patiente (P > 0,05). Aucune différence n'a été constatée en ce qui a trait à la fréquence de l'iléus postopératoire ni en ce qui concerne le délai moyen avant le retour de l'appétit, de l'expulsion de flatuosités et de la défécation.

Conclusion : La reprise postopératoire précoce de l'alimentation semble être une pratique sûre et bien tolérée par les patientes ayant subi une chirurgie gynécologique majeure. La durée de l'hospitalisation postopératoire, la satisfaction de la patiente et les symptômes gastro-intestinaux sont comparables chez les patientes qui connaissent une reprise postopératoire précoce de l'alimentation et chez celles pour qui cette reprise est différée.

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INTRODUCTION

Postoperative ileus refers to the transient obstipation and intolerance of oral intake due to factors that disrupt the normal coordinated propulsive motor activity of the gastrointestinal tract following abdominal surgery.[1] The traditional approach to postoperative nutrition care involves withholding enteric feeding until the spontaneous resolution of ileus,[2,3] which is defined by one of the following clinical signs: the return of intestinal transit, the cessation of nausea and vomiting, the clinical manifestation of peristalsis, and the passage of flatus or bowel movements.[4] The reported incidence of postoperative ileus after gynaecologic surgery ranges from 5% to 25%, with most studies reporting incidences between 10% and 15%.[5–9] In addition to well-established risk factors such as the use of opioid analgesics, specific risk factors for the development of ileus following gynaecologic surgery include the lysis of pelvic adhesions, the presence of a cystotomy, and the concomitant manipulation of the bowel, including reanastomosis.[10]

Although standards of care in the postoperative management of patients undergoing abdomino–pelvic surgery have changed significantly over the last few years, several issues remain unresolved. Specifically, the traditional practice of placing postoperative patients on nil-by-mouth orders and routinely placing nasogastric tubes has been questioned in recent studies.[11] Compelling evidence suggests that early enteric feeding is safe and is associated with a favourable outcome profile.[2,11] Consequently, early postoperative feeding appears to be increasingly favoured in clinical practice.[11–14] Numerous reports from the gynaecologic oncology literature have further demonstrated that early enteric postoperative feeding is safe, and may even reduce the length of hospital stay and costs, mitigating beliefs that early feeding results in refractory nausea, vomiting, abdominal distension and subsequent aspiration, wound breakdown, and anastomotic complications.[7,8,12,15]

Adapted fast-track and enhanced recovery protocols in surgery such as enhanced recovery after surgery (ERAS)[16] have now been studied in controlled trials for major gynaecological surgery. Almost invariably, these have demonstrated the safety and feasibility of the active management of postoperative patients to reduce morbidity, including a faster return to enteric feeding.[16–19] A recent Cochrane review addressing the topic of early feeding after gynaecological surgery determined that early feeding was safe, and although associated with an increased risk of nausea, it led to a reduced length of hospital stay.[2] However, only three randomized controlled trials were included in this review; one of these was unpublished and one based only on patients following surgery for gynaecologic malignancies. The third trial included 98 patients, of whom only 28 had had surgery for benign indications. This review called for further studies to focus on the cost-effectiveness and patient satisfaction of this postoperative management protocol.[2]

In order to assess the impact of an early feeding protocol following major gynaecologic surgery for primarily benign and early malignant indications, we conducted a randomized controlled trial to compare length of postoperative stay, patient satisfaction, and gastrointestinal outcomes between an early and a delayed postoperative feeding protocol.

METHODS

We conducted a parallel, randomized, controlled trial involving patients scheduled for major abdominal gynaecologic surgery at the CHUM St-Luc Hospital in Montreal, Quebec. Patients were enrolled in the study between June 2000 and July 2001.

Women were eligible to participate if they were scheduled for elective gynaecologic surgery for benign or early malignant disease (endometrial carcinoma without radiologic evidence of advanced disease, endometrial biopsy with evidence of hyperplasia with atypia) involving a laparotomy or a vaginal approach. Exclusion criteria included a history of extensive abdomino–pelvic surgery for malignancy, inflammatory disease or obstruction, and all prior interventions requiring extensive lysis of