Parenteral Nutrition Does Not Improve Postoperative Recovery from Radical Cystectomy: Results of a Prospective Randomised Trial


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Background: After radical cystectomy, patients are in a catabolic state because of postoperative stress response, extensive wound healing, and ileus.
Objective: To evaluate whether recovery can be improved with total parenteral nutrition (TPN) in patients following extended pelvic lymph node dissection (ePLND), cystectomy, and urinary diversion (UD).
Design, setting, and participants: We conducted a prospective, randomised, single-centre study of 157 consecutive cystectomy patients.
Intervention: Seventy-four patients (group A) received TPN during the first 5 postoperative days, with additional oral intake ad libitum. Eighty-three patients (group B) received oral nutrition alone.
Outcome measurements and statistical analysis: The primary outcome was the occurrence of postoperative complications. Secondary outcomes were time to recovery of bowel function, biochemical nutritional (serum albumin, serum prealbumin, serum total protein) and inflammatory (C-reactive protein) parameters, length of hospital stay, and costs attributed to the TPN. The Pearson χ² test was used for dichotomous variables; the Wilcoxon rank sum test was used for continuous variables.
Results and limitations: Postoperative complications occurred in 51 patients (69%) in group A and in 41 patients (49%) in group B (p=0.013), a difference resulting from group A having more infectious complications than group B (32% vs 11%; p=0.001). Serum prealbumin and serum total protein were significantly lower in group B on postoperative day 7 but not on postoperative day 12. Time to gastrointestinal recovery and length of hospital stay did not differ between the two groups. The costs for TPN were €614 per patient. A potential limitation is the use of a glucose-based parenteral nutrition without lipids.
Conclusions: Postoperative TPN is associated with a higher incidence of complications, mainly infections, and higher costs following ePLND, cystectomy, and UD versus oral nutrition alone.