

Anteriorly Based Lumbar Spine Surgery - Is Postoperative Diet Restriction Necessary?

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INTRODUCTION:

Nutritional support following spine surgery is crucial for facilitating recovery and decreasing surgical stress. However, in the setting of anteriorly based lumbar spine surgery, diets are often held postoperatively and then progressed in a stepwise fashion. The purpose of this study is to compare short-term outcomes of anteriorly based lumbar procedures in patients who received immediate diet liberalization postoperatively versus those who adhered to a strict stepwise progression of their diet.

METHODS:

All patients at least 18 years of age who underwent primary single or multi-level anteriorly based lumbar spine surgery performed by one of nine fellowship-trained spine orthopaedic surgeons from 2011 to 2022 at a large academic institution were retrospectively identified. Patients were divided into two cohorts based on postoperative diet: a study group who received a full diet immediately ("Solids") and a control group whose diet was initiated on postoperative day 1 and subsequently progressed based on tolerance and ability to pass flatus ("Delayed"). Electronic medical records were reviewed for demographics, and 90-day postoperative complications and outcomes. Bivariate statistical analysis was performed amongst the groups. Categorical variables were analyzed using Chi-Square or Fisher's Exact tests and continuous variables were analyzed by t-tests or Mann-Whitney U test. Multivariate regressions were performed for postoperative urinary retention, ileus, and length of hospital stay.

RESULTS:

A total of 515 patients were included in the study, consisting of 162 patients (19.8%) in the "Solids" group and 413 patients (80.2%) in the "Delayed" group. Demographic data was similar among the groups except for a significantly greater percentage of males in the "Solids" group (61.8% vs. 45.0%, $p=0.004$). Patients in the "Solids" group had a significantly faster time to flatus (1.2 days vs. 1.9 days, $p<0.001$), decreased rate of ileus (2.9% vs. 10.2%, $p=0.034$), decreased rate of urinary retention requiring straight catheterization (3.9% vs. 16.0%, $p=0.003$), and shorter length of stay (2.3 days vs. 3.8 days, $p<0.001$). Multivariate regression analyses demonstrated that immediate diet liberalization did not significantly increase the odds of developing postoperative ileus (OR: 0.33; 95% CI: 0.05 – 1.19; $p=0.145$) but did significantly influence length of stay (OR: -1.35; 95% CI: -2.00 – -0.69; $p<0.001$) and postoperative urinary retention (OR: 0.17; 95% CI: 0.03 – 0.58; $p=0.017$).

DISCUSSION AND CONCLUSION:

Postoperative diet restriction following anteriorly based lumbar surgery is commonly employed out of fear of developing postoperative ileus. However, the current study demonstrates that early diet liberalization did not increase the rate of postoperative ileus but did significantly decrease length of stay and postoperative urinary retention. Immediate diet liberalization should be considered following anterior spinal surgery and may be incorporated into protocols to optimize outcomes.