Enhanced Recovery in Acute Pancreatitis (RAPTor): A Randomized Controlled Trial

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Introduction: Acute pancreatitis (AP) remains a leading cause of hospitalization in the US. Despite the frequency of this disease there have been relatively few attempts to optimize approaches to routine care for patients with AP. We hypothesized that enhanced approaches to recovery may lead to earlier restoration of gut function in patients hospitalized for acute pancreatitis.

Methods: We performed a single-blind randomized-controlled trial of patients admitted directly from the emergency department between July 2016-April 2017. Patients with evidence of organ failure or the systemic inflammatory response syndrome at the time of enrollment were excluded. All patients were enrolled within 24-hours of hospitalization and received standard fluid resuscitation. Participants were randomly assigned to receive either enhanced recovery consisting of patient-directed oral intake, early ambulation and non-opioid analgesia versus standard treatment with opioid analgesia and physician-directed diet as well as nursing parameters. The primary study endpoint was time to oral refeeding. Secondary endpoints included differences in pancreatitis activity scores (PASS), length-of-stay and 30-day rehospitalization. All analyses were conducted on an intent-to-treat basis.

Results: A total of 46 participants were enrolled. Etiologies were as follows: 61% gallstone, 15% alcohol, 13% hypertriglyceridemia, 11% other. Median age of the cohort was 53.1 years, 54.3% were female. There was a significant reduction in time to successful oral re-feeding in the enhanced recovery vs. standard care group, median 13.8 vs. 124.8 hours, p < 0.001. Pancreatitis activity scores were lower at 48-72 hours among patients assigned to enhanced recovery (mean 43.5 vs. 72.1, p < 0.001). There were no significant differences in length-of-stay or frequency of 30-day readmission.

Conclusion: In this pilot randomized-controlled trial, enhanced recovery approaches were safe and effective in promoting earlier restoration of gut function in patients hospitalized for acute pancreatitis (NCT02813876).