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Impact of Nutritional Deficit in Emergency Surgery (INDIcatES): A cohort study

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Background: Emergency laparotomy is associated with significant morbidity. Nutritional status is an important factor that can influence outcomes, particularly in this setting where temporary gastrointestinal failure can occur. This study aims to compare the performance of three nutrition risk tools in predicting time without enteral nutrition.

Methods: A prospective cohort study was conducted across two sites (NCT04696367). Patients undergoing NELA eligible procedures were invited to participate. Data collected included demographics, surgical diagnosis, surgical procedure, and surgical outcomes. Nutrition risk was assessed using three tools: MUST score, the Nutritional Risk Index (NRI), and Nutritional Risk Score 2002 (NRS).

Results: In total, 56 patients were recruited of whom 21 had small bowel obstruction. Median age was 69 years and 23 participants were female. Overall, 23 participants (41.8%) were identified as high risk using the MUST score, compared to 11 (20.0%) using NRS and 4 (8.9%) using NRI. Median time to return to normal enteral intake was 10 days (IQR 7-14). 91%, 90%, and 95% of those identified as low risk according to MUST, NRS, and NRI respectively were without enteral intake for 5 days or more. The median complication index score was 15 (IQR 0-34). There was no significant difference in duration of time without intake or complications seen in any of the nutritional risk groups.

Discussion: This study shows that patients undergoing emergency laparotomy spend a prolonged time without enteral intake. Current tools do not adequately stratify the likelihood of prolonged starvation at baseline, or in light of surgical findings.