Lactate clearance is not predictive of morbidity or mortality after liver resection

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Background: Lactate clearance has been used as a marker for postoperative outcomes in several types of surgery, but its reliability as a predictor for morbidity and mortality following liver resection surgery is still not clearly understood.

Study Design: Patients from a previous prospective, single-blinded, single high-volume institution, randomized trial undergoing liver resection were studied. The patients were divided into two different groups receiving either standard perioperative fluid resuscitation therapy or goal-directed therapy. Lactate clearance was calculated and 30-day morbidity was the primary outcome measured. Survival differences between different lactate clearance groups were assessed using Kaplan Meier curves at a median follow up of 3.4 years.

Results: One hundred and thirty-five patients were randomized (GDT: n = 69; standard perioperative resuscitation: n = 66) during their liver resection surgery. Median age was 57 years and 44% were female. There was no difference between the occurrence of morbidity (p=0.38) or mortality (p=0.80) among the two arms. There was no difference between the mean lactate clearance among patients with morbidity and those without (p=0.38) or overall survival among the different lactate clearance groups (p=0.89).

Conclusions: In this cohort of patients, lactate levels did not correlate with either perioperative outcomes or long-term survival at a median follow-up of 3.4 years. Lactate levels after resection were also not correlated with increased morbidity. Post-operative complications were similar among both arms as was overall survival. This data suggest that sequential lactate measurements is not warranted following liver resection surgery to predict possible post-operative outcomes.