

# THE ROLE OF PROLONGED LOW-DOSE 20% ALBUMIN INFUSION IN THE MANAGEMENT OF POSTOPERATIVE HYPOVOLEMIA AFTER MAJOR ABDOMINAL SURGERY

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## Background

Postoperative hypovolemia and hemodynamic instability remain major challenges following extensive abdominal surgery. Although crystalloids constitute the standard initial approach to intravascular volume replacement, large-volume crystalloid administration may contribute to positive fluid balance, tissue edema, and impaired organ function. Albumin, particularly hyperoncotic 20% albumin, may provide intravascular volume expansion with a substantially lower infused volume. However, the clinical value of prolonged low-dose albumin administration in postoperative hypovolemia remains insufficiently defined.

## Objective

To evaluate the clinical role of prolonged low-dose 20% human albumin infusion in patients with postoperative hypovolemia and hemodynamic instability following major abdominal surgery.

## Methods

This draft describes a comparative study of 100 adult patients following major abdominal surgery. Fifty patients received 20% human albumin at 5 mL/h for 24 hours in addition to standard postoperative care, while 50 patients received crystalloid-based fluid therapy. The primary outcome was time to hemodynamic stabilization. Secondary outcomes should include arterial pressure, serum lactate, vasopressor requirements, cumulative fluid administration, fluid balance, urine output, renal function, and clinically relevant fluid overload.

## Results

In the preliminary dataset provided for manuscript development, hemodynamic stabilization occurred within 24 hours in the albumin group, whereas stabilization required more than 24 hours in the crystalloid group. Complete statistical analysis of individual patient-level data is required before definitive effect estimates, confidence intervals, and P values are reported.

## Conclusions

Prolonged low-dose infusion of 20% human albumin may represent a potentially useful strategy for selected patients with postoperative hypovolemia following major abdominal surgery. The preliminary observation of earlier hemodynamic stabilization warrants confirmation in adequately powered prospective randomized studies. This strategy should not be interpreted as evidence supporting routine albumin administration for postoperative resuscitation.