

IMPROVEMENT OF PATIENT-SPECIFIC POSTOPERATIVE OUTCOMES WITH RETROPERITONEAL REPAIR OF INFRARENAL ABDOMINAL AORTIC ANEURYSM

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Background: Transperitoneal (TP) and retroperitoneal (RP) approaches have equal efficacy in elective open abdominal aortic aneurysm (AAA) repair. It has been suggested, however, that the retroperitoneal approach leads to fewer postoperative complications and improved patient-specific outcomes. We tested the effect of open operative approach on patient outcomes after AAA repair.

Methods: We identified consecutive patients undergoing open AAA repair at the Tennessee Valley Healthcare System Nashville Campus between January 2000 and August 2008. Patients were stratified into two groups: TP repair and RP repair. Analyses examined the effects of demographic and clinical covariates on postoperative outcomes. Comparisons between groups were performed with Fisher's exact test or chi-squared test for categorical variables and Student's t-test or Wilcoxon rank sum test for continuous variables.

Results: The complete study cohort included 106 patients (54 TP and 52 RP). Patient demographics, body mass index, and smoking status did not differ between groups (all $p \geq 0.10$). Preoperative comorbidities were also equivalent ($p \geq 0.36$), with the exception of chronic obstructive pulmonary disease which was more prevalent in the TP group ($p = 0.03$). Operative times were significantly longer in the TP group ($p < 0.01$); however, estimated blood loss and resuscitative measures did not differ between groups (all $p \geq 0.10$). Postoperative average nasogastric tube decompression times were significantly shorter in the RP group (1 day vs. 3 days, $p < 0.01$). Similarly, RP approach led to significantly quicker return to regular diet (4 days vs. 6 days, $p = 0.05$). In addition, patients undergoing RP repair developed significantly fewer incisional hernias (2% vs. 15%, $p = 0.03$). No significant differences were observed in postoperative lengths of stay, ICU care, ventilatory support, other postoperative complications, or 30-day mortality (all $p \geq 0.14$).

Conclusions: When compared with the transperitoneal approach, retroperitoneal operation offers a shorter operative time, earlier return of gastrointestinal function, and fewer incisional hernias, in patients undergoing elective open AAA repair.