

EVAR IS ASSOCIATED WITH LESS MALNUTRITION THAN OPEN AAA REPAIR

*Ochoa Chaa CI, Fitzgerald TN, Dewan M, Huddle M, Perkal M, Muhs BE, Dardik A
Yale University School of Medicine; VA Connecticut Healthcare Systems, New Haven, CT

Background: We have previously demonstrated that patients undergoing abdominal aortic aneurysm (AAA) repair have high rates of postoperative malnutrition and infection. Numerous reports have demonstrated that endovascular aneurysm repair (EVAR) is associated with reduced mortality and morbidity compared to open AAA repair, but the role of nutrition is not fully understood. We examined whether EVAR is associated with reduced postoperative malnutrition compared to open AAA repair.

Methods: The records of all patients undergoing AAA repair in the Veterans Affairs (VA) Connecticut Healthcare system between 1998 and 2008 were reviewed; records were included only if complete nutritional parameters were recorded preoperatively and postoperatively. Multivariable regression was used for analysis. Primary outcomes were 30-day morbidity, lengths of hospitalization and intensive care unit (ICU) stay, duration of intubation, and nutritional risk index (NRI) scores.

Results: Sixty-five patients were included (open repair: 40; EVAR: 25). Nutritional parameters were comparable between groups before surgery. Patients treated with EVAR had improved postoperative nutritional profiles as determined by albumin (3.7 ± 0.08 vs. 3.4 ± 0.08 ; $p = 0.003$), and NRI (97.9 ± 1.3 vs. 88.9 ± 0.3 ; $p = 0.0006$), compared to patients treated with open repair. Patients having EVAR had shorter length of stay ($p = 0.0017$), fewer ICU days ($p = 0.003$), fewer ventilated days ($p = 0.04$), and were more likely discharged home ($p = 0.03$) compared to patients having open repair; there was a trend towards more pneumonias (12% vs. 0%; $p = 0.06$) and acute renal failure (22% vs. 4%; $p = 0.07$) in the open repair group. Avoidance of postoperative malnutrition was strongly associated with both avoidance of pneumonia ($p = 0.02$) and discharge to home ($p = 0.02$).

Conclusion: Patients undergoing EVAR developed significantly less postoperative malnutrition compared to those having open repair. Superior nutritional profiles were associated with a lower incidence of postoperative infections and discharge to home. EVAR may be a strategy to avoid malnutrition and improve outcomes in patients at risk for malnutrition after undergoing AAA repair.