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Identifying Risk Factors for Prolonged Hospital Stay and 30 Day Readmission for Elective EVAR for Abdominal Aortic Aneurysms

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Background

Elective repair of an abdominal aortic aneurysm (AAA) before rupture is achievable through both open and endovascular (EVAR) approaches. Studies that have compared open and EVAR have demonstrated similar long-term mortality and cost, with endovascular therapy demonstrating some short-term advantage in both mortality and cost in the United States. A cost advantage for EVAR is generally achieved through a shorter hospital length of stay and ICU stay despite high device costs. Furthermore, prolonged hospital stay is associated with high 30d readmission rates in this population, and 30d readmission is a major risk factor for 1 year mortality in this population. Studies are yet to define a prolonged hospital stay following EVAR, or examine the causes of prolonged hospital stay after EVAR.

Problem Statement

To date, studies are yet to define a prolonged hospital stay following EVAR, or examine the causes of prolonged hospital stay after EVAR, a major risk factor for one year mortality.

Materials and Methods

We performed a retrospective analysis of EVAR patient's electronic patient records at Lehigh Valley Health Network from 2001-2013. We then examined the postoperative course of these patients for time and complications.

Results

517 elective EVAR procedures were performed. 437 patients (85%) were male, 77 (15%) were female. 78% of patients had an uncomplicated postoperative course with 100% of uncomplicated patients being discharged by postoperative day (POD) 2. 117 (22%) patients had a postoperative length of stay of 3 or more days. 100% of these patients experienced a complication from surgery or in their hospital course. The most common complication to their hospital course was urinary retention in 38 patients, followed by difficult ambulation in 20 patients, and pulmonary complications in 18 patients. Other causes of prolonged postoperative hospital stay included need for further procedures, cardiac arrhythmias, gastrointestinal complications, fever, and uncontrolled pain. 81 patients (16%) were readmitted within 30 days.

Conclusion

An uncomplicated postoperative hospital stay following EVAR can be as little as 2 postoperative days. Postoperative complications following EVAR leading to prolonged hospital stay are common. Knowledge of these complications may play a factor in reducing 30d readmissions as well as 1 year mortality.