

Surgical Outcomes of Femoral Hernia Repair in the Octogenarian

Graham McLaren, MD, Ayman Shehadeh, MS, John Collins, MD, Robert Sawyer, MD, Gitonga Munene, MD, Saad Shebrain, MBBCh, MMM
Western Michigan University Homer Stryker M.D. School of Medicine Department of Surgery

Introduction

Femoral hernias typically account for about 3% of all groin hernias and are associated with significant morbidity and mortality due to increased risk of strangulation. We hypothesize that Octogenarians have worse 30-day outcomes compared to younger patients.

Background

Femoral hernias constitute approximately 3% of all groin hernias. The low incidence of femoral hernias make it difficult to draw conclusions on the best management of care due to the lack of large-scale randomized studies and limited availability of literature. Despite this, femoral hernias are still clinically important because the risk of strangulation can lead to emergent surgeries and, in some cases, bowel resection. Studies have shown the mortality risk following emergency surgical operations for groin hernia repair is increased as much as 6- to 9-fold compared to the mortality of the general population and cases that required a bowel resection to be performed saw a 20-fold increase in mortality risk.

As patients age, their risk of femoral hernias increases progressively with the peak incidence of femoral hernia repair seen in octogenarians. Studies have shown increased age to be a significant risk factor for increased morbidity and mortality following femoral hernia repairs, especially in patients who are older than 80 years. This has led many surgeons to become hesitant in offering elective procedures for femoral hernia repair to octogenarians due to concerns of increased risk.

The aim of this study is to explore the 30-day outcomes of octogenarians who underwent femoral hernia repair compared to younger patients (age <80 years old) using the ACS-NSQIP database (2017) to measure and track 30-day mortality, serious morbidity, overall morbidity, readmission rates, operative time (minutes) and total hospital length of stay (LOS, days).

Methodology

Using the ACS-NSQIP database (2017), patients who underwent femoral hernia repairs were identified and divided into two groups, Group A (<80 years old), and Group B (≥80 years old). The outcomes of interest included 30-day mortality, serious morbidity, overall morbidity, readmission rates, operative time (minutes) and total hospital length of stay (LOS, days). Pearson’s chi-squared, and Fisher’s exact tests were used to test group differences of categorical variables and presented as numbers (percentages). Continuous variables were tested with the Student t-test and presented as means (standard deviation; SD), with statistical significance set at a value of p<0.05.

Table 1: Baseline characteristics

	Group A (< 80) (n=1,061)	Group B (≥ 80) (n= 243)	p value
Smoking Status	20.4%	7.4%	< 0.001
Direct transfers from home	95%	88%	< 0.001
Discharge to home	98%	83%	< 0.001
Dyspnea	3.6%	9.5%	< 0.001
Impaired functional status	1%	11.6%	< 0.001
History of COPD	5.5%	12.8%	<0.001
Hypertension	30.2%	66.7%	< 0.001
Bleeding disorders	2.1%	11.1%	< 0.001

Table 2: Operative factors

	Group A (< 80) (n=1,061)	Group B (≥ 80) (n= 243)	p value
ASA (III, IV) classification	35%	74.5%	< 0.001
Emergency femoral hernia repair	21.3%	40.7%	< 0.001
Open surgery	62.7%	84.8%	< 0.001

Table 3: 30-day outcomes for post-femoral hernia repair

	Group A (< 80) (n=1,061)	Group B (≥ 80) (n= 243)	p value
30-day mortality	0.3%	0.8%	0.219
Operative Time in minutes [mean (SD)]	68 (45.5)	65 (38.5)	0.302
Rate of serious morbidity	2.5%	4.9%	0.046
Overall morbidity	4.5%	8.6%	0.010
30-day readmission rate	3.1%	5.8%	0.046
Average hospital LOS days [mean (SD)]	1.46 (3.03)	3.24 (3.97)	<0.001

Results

1,304 patients identified in total. 943 (72.3%) were female. A total of 1,061 patients (81.4%) were under 80 (Group A.). Group A had higher current smoking status, direct transfer from home, and discharge destination to home. Group B had higher rates of dyspnea, impaired functional status prior to surgery, history of COPD, HTN, and bleeding disorders. Patients in Group B had higher ASA (III, IV) classification compared to Group A. Emergency surgery was performed more in group B. One-third of all femoral hernia repair were performed laparoscopically. Open repair approach was performed more in group B.

No differences in 30-day mortality between the two groups. However, Group B has higher serious morbidity, overall morbidity, 30-day readmission, and hospital LOS. No difference in total operative time was found.

Conclusion

Octogenarians undergoing femoral hernia repair tended to have more preoperative risk factors and increased 30-day morbidity outcomes postoperatively. Additionally, there was an 8-fold increase in post-operative hospital discharge to a non-home destination (rehab, skilled nursing facility and acute care facility) in the octogenarian population. No difference in 30-day mortality between the two groups was noted.