Timing, Frequency, and Predictors of Emergency Department Visits Following Bankart Repair

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INTRODUCTION: Bankart repair is the most commonly performed procedure for the management of anterior glenohumeral instability in the United States. Although effective and infrequently associated with complications, patients may still present to the emergency department (ED) after surgery. Understanding the timing, frequency, and predictors of ED visits may facilitate optimizing care pathways, improve patient satisfaction, and reduce health care costs.

METHODS: Patients undergoing primary open or arthroscopic Bankart repair were identified from the 2010-2023 Q1 PearlDiver M170 database. Exclusion criteria included a diagnosis of infection or neoplasm 90 days before surgery and lack of activity in the database for at least 90 days post-operatively. Our institutional review board deemed studies utilizing PearlDiver exempt from review as all data is deidentified and aggregated.

Patients who visited the ED within 90 days after surgery were compared to those who did not. Patient characteristics including clinical factors (age, sex, Elixhauser Comorbidity Index [ECI], and arthroscopic versus open operative approach) and non-clinical factors (geographic region and insurance plan) were compared between cohorts. Multivariable analysis was performed to identify independent predictors of ED visits.

Among patients who visited the ED, the timing and weekly frequency of visits was assessed and compared to baseline ED utilization, which was defined as the weekly frequency of ED visits over a 5 week period at 1-year post-operation. Reasons for ED presentation at one-, two-, and three-months postoperatively were identified and categorized as shoulder-related versus not shoulder-related.

RESULTS: A total of 149,024 patients undergoing Bankart repair met criteria for study inclusion. At least one emergency department visit within 90 days was noted for 11,760 (7.9%) patients.

On multivariable analysis, ED visits were independently associated with Medicaid insurance (odds ratio [OR, 95% confidence interval (CI)]: 2.16 [2.04,2.29]), open operative approach (OR: 1.38 [1.27,1.49], relative to arthroscopic), Midwest region (OR: 1.31 [1.24,1.39], relative to Northeast), female sex (OR: 1.34 [1.28, 1.39], relative to male), ECI (OR: 1.24 [1.23, 1.24], per 1-point increase), and age (OR: 1.01 [1.01, 1.01], per decade decrease). The incidence of all cause ED visits was highest during the first two postoperative weeks, with 25.8% of visits occurring during that time (**Figure 1**). The reason for ED visits related to the shoulder during the first month was 58.7%, decreasing to 39.5% and 39.4% in months two and three, respectively.

DISCUSSION: In the 90 days after Bankart repair, 7.9% of patients visited the ED at least once, with the greatest utilization occurring during the first two postoperative weeks, after which the incidence of ED visits returned to baseline. These findings highlight the need for targeted interventions during the early postoperative period, particularly for patients with identified risk factors to mitigate ED utilization and improve patient outcomes following Bankart repair.

SIGNIFICANCE/CLINICAL RELEVANCE: While complications following Bankart repair are rare, nearly 8% of patients visit the ED within 90 days after surgery. Understanding the timing, frequency, and predictors of emergency department visits may guide targeted interventions to improve postoperative care and resource allocation.

IMAGES AND TABLES:

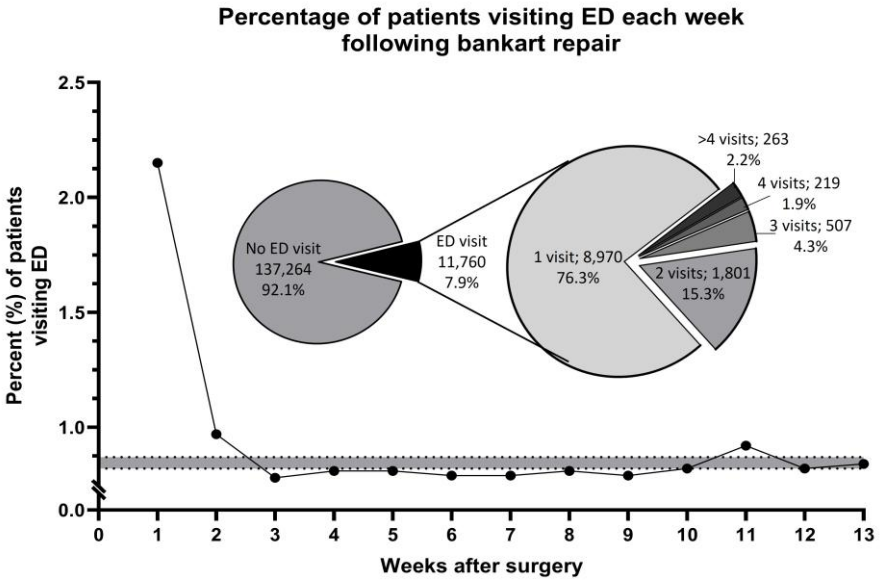

Figure 1. Line graph representing percent of Bankart repair patients who visit the ED in each postoperative week. Shaded horizontal bar represents baseline incidence of ED visit (0.82%-0.87%). Expanded pie charts demonstrating the proportion of patients who visited the ED, and frequency of ED visits by those patients in the 90-day postoperative window. *ED, emergency department.*