

Peri-Operative Outcomes Following Same-Day Bilateral Total Hip Arthroplasty: Does Approach Matter?

Orthopaedics / Pelvis, Hip & Femur / Joint Replacement - Primary

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Keywords: Bilateral Total Hip Arthroplasty, Outcomes, Anterior Approach, Posterior Approach

Introduction

For same-day bilateral THA, surgical approach and patient positioning may compromise wound closure and anesthetic time. Except for potential faster recovery, direct anterior approach –performed in the supine position- offers the advantage of simultaneous prepping and draping of both hips, therefore gaining significant operating room and anesthesia time.

Objectives

The purpose of this study was to compare the (1) clinical characteristics; (2) operative time, length of stay (LOS), and destination post discharge; (3) 30-day mortality and in-hospital complication; and (4) blood transfusion rate between patients undergoing either anterior (A) or posterior (B) same-day Bilateral THA (SDBTHA) in a high-volume academic institution specializing in joint replacement surgery.

Methods

We retrospectively reviewed clinical characteristics of same-day BTHA patients between 1/2010 and 12/2014. Patient demographics, comorbidity, Deyo comorbidity index, length of stay (LOS), primary diagnosis, total and allogenic transfusion rate, 30-day mortality, in-hospital complication (local/orthopaedic, minor systemic and major systemic), and destination post discharge were recorded. Univariate analyses for differences among patients in three groups were conducted using Wilcoxon rank-sum test for continuous, and Chi-square or Fisher's exact test for categorical variables. Significance level was set at 0.05.

Results

A total of 225 patients were included in the study (104 men, 121 women; mean age 55.6 ± 12.4 years). Of these, 70 underwent Anterior and 155 Posterior BTHA. The groups were similar in age (A: 56.5 ± 11.5 vs. P: 55.2 ± 12.9 ; $p=.59$), Deyo-Charlson comorbidity index (A: 0.1 ± 0.3 vs. P: 0.25 ± 1.04 ; $p=.98$), and female gender (A: 57.1% vs. P: 52.3%; $p=.56$). Operative time-in minutes- (A: 119.3 ± 28.8 vs. P: 148.7 ± 41.3 ; $p<.001$) and LOS (A: 3.3 ± 1.0 vs. P: 4.3 ± 1.5 ; $p<.001$) were lower in the Anterior BTHA group. A trend towards more frequent discharge to home was observed for the Anterior BTHA cohort (A: 44.3% vs. P: 31.0%; $p=.06$). Thirty-day mortality was 0% for both groups. No difference was found in local (A: 0.0% vs. P: 0.0%; $p=1.0$), minor (A: 11.4% vs. P: 14.2%; $p=.67$) and major systemic (A: 0.0% vs. P: 0.7%; $p=1.0$) complications among the groups. Acute post-hemorrhagic anemia was comparable between cohorts (A: 25.7% vs. P: 25.2%; $p=1.0$). Overall blood (A: 1.1 ± 1.1 vs. P:

1.0±1.0; p=.53) and allogenic transfusion (A: 0.4±0.7 vs. P: 0.4±0.6; p=.97) rates (in units) were similar among the groups.

Conclusions

Peri-operative complication in patients undergoing Bilateral THA is low and comparable between the direct anterior and posterior surgical approach. However, the direct anterior approach is associated with shorter procedure time and LOS, and more frequent discharge to home. Our results suggest that the direct anterior BTHA is a safe alternative to the posterior approach from the standpoint of both the patient's safety and the hospital and surgeon's burden.