

Operative Treatment Delays of Vancouver B2 Fractures Are Not Associated With Increased Mortality, Morbidity, Revision, or Reoperation

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Purpose: Vancouver B2 periprosthetic fractures are complex injuries associated with a high risk of complications, morbidity, and potentially mortality. Their treatment requires specialized expertise that often cannot be provided by general orthopaedic surgeons, and thus is frequently delayed. Similar delays in the geriatric hip fracture population have been demonstrated to increase mortality and morbidity rates. The purpose of our study was to investigate if treatment delays negatively affect mortality, morbidity, revision, and reoperation rates for patients with periprosthetic Vancouver B2 fractures.

Methods: We retrospectively reviewed 173 patients with 174 Vancouver B2 periprosthetic femur fractures treated with revision total hip arthroplasty (THA) between 2000 and 2018. We compared 67 “early” cases (treated within 48 hours of injury) and 107 “delayed” cases (treated after 48 hours). The mean age at revision THA was 74 years, with 49% being female. Mean follow-up was 3 years.

Results: One-year survival free of mortality was 79% in the early group and 81% in the delayed group ($P = 0.41$). No significant differences in mortality, revision, and reoperation rates at any time point were identified (all $P > 0.2$). Similarly, there were no significant differences in deep vein thrombosis, pulmonary embolism, pneumonia, and myocardial infarction rates between the groups (all $P > 0.15$). Multivariate analysis demonstrated a risk ratio for mortality in the delayed group of 0.97 when compared to the early group.

Conclusion: Delays in treatment for patients with Vancouver B2 periprosthetic femur fractures were not associated with increased risk of mortality, morbidity, revision, or reoperation at any time point. This is in contrast to multiple prior studies demonstrating an increase in mortality when surgery for hip fracture is delayed. It is possible that a deferral of surgery due to availability of surgical expertise does not affect patient mortality in the same way that delay due to medical complexity does. Although early surgery is still preferable, we did not discover an increase in patient mortality in patients who waited more than 48 hours for surgery.