Acute Arthrotomy Dehiscence After TKA: Surprisingly Modest Infection Risk with Aggressive Treatment

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INTRODUCTION: Arthrotomy dehiscence is a challenging complication following total knee arthroplasty (TKA). As early mobilization and fast-track rehabilitation protocols become increasingly popular, incidence of arthrotomy dehiscence will likely increase. This study aimed to evaluate the clinical outcomes of acute, traumatic arthrotomy dehiscence, with and without superficial skin involvement, following primary TKA.

METHODS: Retrospective review identified 39 acute (<90 days), surgically managed arthrotomy dehiscence following primary TKA. The arthrotomy and skin dehisced in 25 (64%) cases while the other 14 (36%) involved only the arthrotomy. Mean time from TKA to dehiscence was longer in the arthrotomy-only cohort (31 versus 17 days, p=0.005) as was the time from dehiscence to repair (13.1 versus 1.9 days, p<.0001). Failure was defined as all-cause reoperation or reoperation for periprosthetic joint infection (PJI).

RESULTS:

Overall, survivorship free from all-cause reoperation was 74% at a mean follow-up of 1.4 years. When stratified by arthrotomy type, 1-year survivorship free from all-cause reoperation was 73% for the arthrotomy-only cohort versus 76% for the arthrotomy + skin cohort (p=0.941). The 1-year survivorship free from reoperation for PJI was 100% in the arthrotomy-only cohort versus 96% in the arthrotomy + skin cohort (p=0.126). Kaplan-Meier curves depicting the survivorship estimates between the two cohorts can be seen in Figure 1 for overall survivorship and Figure 2 for survivorship for infection. There were 8 (21%) total failures, including 4 PJIs, all occurring in the arthrotomy + skin cohort, and 4 extensor mechanism complications, 3 of which occurred in the arthrotomy only cohort and 1 in the arthrotomy + skin cohort (p=0.28).

DISCUSSION AND CONCLUSION: Overall, arthrotomy dehiscence, regardless of superficial skin involvement, shows concerningly low 1-year all-cause reoperation survivorship. Arthrotomy dehiscence with early, aggressive treatment had fair early survivorship free from reoperation for PJI. Our results suggest that surgeons should take all possible precautions to prevent infection and council patients regarding the risk of infection and potential extensor mechanism complications following traumatic arthrotomy dehiscence events.

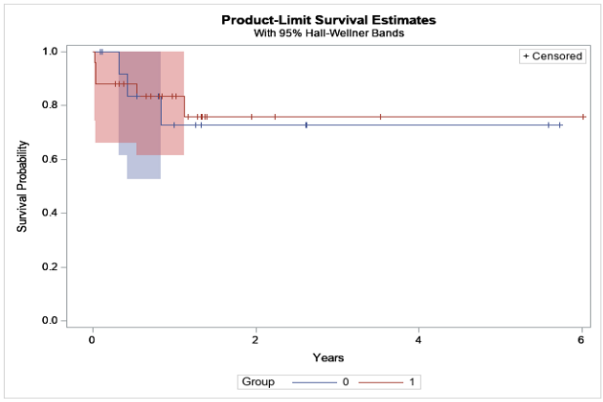

Figure 1. Kaplan-Meier curve estimating the overall survivorship following the surgical management of acute, traumatic arthrotomy dehiscence with (red) and without (blue) superficial skin involvement. The log-rank test revealed no significant difference in survivorship between cohorts (p=0.9405).

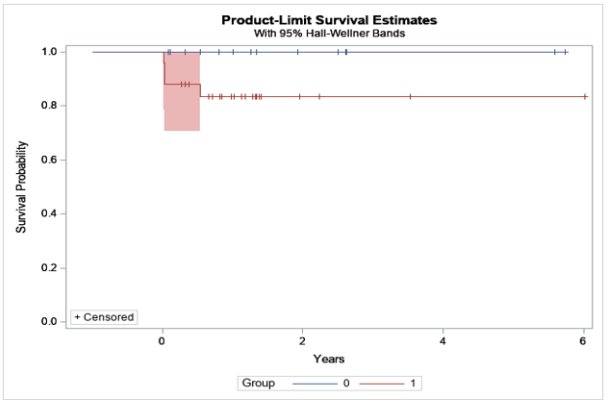

Figure 2. Kaplan-Meier curve estimating the survivorship free from reoperation for periprosthetic joint infection (PJI) following the surgical management of acute, traumatic arthrotomy dehiscence with (red) and without (blue) superficial skin involvement. The log-rank test revealed no significant difference in survivorship between cohorts (p=0.126).