Does A Periprosthetic Fracture Meaningfully Alter the Patients Functional and Radiographic Outcomes?

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INTRODUCTION: Periprosthetic fractures (PPFs) are among the most common complications following total hip arthroplasty (THA). Given the variability in functional outcomes following PPFx, this study aimed to compare functional outcome scores between patients who underwent primary THA to patients who suffered an early or late PPFs.

METHODS: Between 2016 and 2022, we retrospectively reviewed all patients at a single tertiary center who underwent primary THA and those who sustained a PPF. Exclusion criteria included prior revision, reoperation following primary THA or PPFx, and follow-up less than 90 days. A total of 85 PPF cases were matched 4:1 based on age, sex and body mass index (BMI) to controls who did not sustain a PPF. PPFs were classified as early (< 90 days following THA) (n=46) or late (> 90 days following THA) (n=39). There were 2 Vancouver A, 2 Vancouver B1, 77 Vancouver B2, and 5 Vancouver C fractures. HOOS-JR scores were collected prospectively at one and two-years postoperatively.

RESULTS: At one year postoperatively, late PPFs had significantly lower HOOS-JR scores (77) compared to primary THA's (91) (p=0.02) but were not different from early PPFs (84) (p=0.6). At two years postoperatively, HOOS-JR scores for primary THAs (89), early (86), and late PPFx (88) did not differ significantly (p=0.6). Stem subsidence was not different between early or late PPFs (2.3mm versus 3.5mm, p=0.1).

DISCUSSION AND CONCLUSION: Patients who suffer a PPFx can expect to achieve functional outcomes similar to those undergoing primary THA at two-years postoperatively. Remarkably, patients with late PPFx do not perform as well those with primary THA at the one-year mark but regain functionality comparable to both primary THA and early PPFx at the two-year mark. This data can help surgeons set realistic expectations following a PPFx, provided the postoperative course is free of complications.