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Contralateral knee pain exacerbation after total knee arthroplasty and its impact on functional activity

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Abstract

Introduction: The purposes of the present study were to (1) describe the prevalence of contralateral knee pain exacerbation after total knee arthroplasty (TKA), (2) explore the risk factors for pain exacerbation, and (3) verify the association of contralateral knee pain with future functional activity.

Materials and method: We consecutively recruited outpatients with osteoarthritis of both knees who had primary TKA planned. The contralateral knee pain using a Numerical Rating Scale (NRS) and the functional activities subdomain of the new Knee Society Knee Scoring System (KSS) were assessed preoperatively and at 1, 3, and 6 months postoperatively. Among patients with < 5 NRS points preoperatively, we described the frequency of the contralateral knee pain exacerbation, defined as a ≥ 2-point increase from preoperative pain at each postoperative visit. An exploratory analysis was performed to identify preoperative risk factors for contralateral knee pain exacerbation. A linear mixed model was fit to examine the association of the contralateral knee pain with KSS functional activities at subsequent visits.

Results: Among 315 patients, 14.6%, 24.1%, and 27.6% of patients experienced contralateral knee pain exacerbation at 1, 3, and 6 months postoperatively, respectively. The identified preoperative risk factors were low quadriceps strength and higher Kellgren-Lawrence grade on the non-operative knee, along with severe pain on the operative knee. The magnitude of the association between contralateral knee pain and worsening KSS functional activities increased with subsequent visits (p for interaction < 0.001).

Conclusion: The frequency and impact of pain exacerbation on the contralateral knee increase after TKA and should be carefully evaluated for a prolonged period of time.

Keywords: Contralateral knee pain; Functional activity; Knee osteoarthritis; Low quadriceps strength; Total knee arthroplasty.

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