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RESEARCH ARTICLE

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Lymphedema microsurgery reduces the rate of implant removal for patients who have pre-existing lymphedema and total knee arthroplasty for knee osteoarthritis

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Abstract

Introduction: Patients with pre-existing lymphedema who undergo total knee arthroplasty (TKA) for osteoarthritis (OA) are at high risk for periprosthetic joint infection. This complication usually requires removal of the implant. This study aimed to investigate whether surgical treatment of lymphedema reduces the rate of prosthesis removal in such patients.

Materials and methods: We retrospectively reviewed our prospective database of patient information collected between January 2009 and December 2018. A total of 348 cases of lower extremity lymphedema were reviewed, and those who underwent total knee TKA for OA of the knee were included. Patient demographics, clinical data, lymphedema surgical history, and TKA surgical history including any episodes of removal were collected and analyzed.

Results: There were nine of 15 lymphedema patients with knee OA who subsequently underwent TKA. The mean patient age was 70.4 ± 7.1 years. A total of 18 TKAs were performed in nine patients. The knee prosthesis removal rate was 66.7% (12/18). The prosthesis removal rate was 40% (2/5) in patients who underwent lymphedema microsurgery vs 76.9% (10/13) for those who did not ($P = .03$).

Conclusions: Pre-existing lymphedema is associated with a high rate of knee prosthesis removal. Lymphedema microsurgery reduced the removal rate of knee prostheses. We recommend that lymphedema microsurgery be considered for patients who require TKA as a treatment for of the knee.

KEYWORDS

knee replacement, lymphovenous anastomosis, periprosthetic joint infection, prosthesis, vascularized lymph node transfer

1 | INTRODUCTION

Lymphedema is becoming an increasingly more common condition. Up to 250 million people worldwide suffer from lymphedema.[1] Lymphedema is categorized into two major types: primary or secondary. Primary lymphedema results from genetic or developmental anomalies, whereas secondary lymphedema can result from a multiple reasons, such as trauma, infection, malignancy, or radiation to the lymphatics.[2]

Secondary lymphedema is by far the much more common form. Worldwide, secondary lymphedema is most commonly caused by infection (filariasis), but in developed countries, the majority of secondary lymphedema cases are due to cancer and cancer-related treatment, such as lymph node dissection or radiation.[3,4]

