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Opinion

After total knee arthroplasty, indicators and medical tests to determine the reasons of lower limb edema

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Abstract

Following Total Knee Replacement (TKA), lower limb edema reduces the efficacy of surgery. The lack of a categorization of swelling causes using adequate medical tests is the source of the dismal outcomes of trials on therapies for swelling. There's no gold standard here. By interviewing a wide variety of specialists from other fields, this study attempted to clarify the reasons of TKA postoperative edema and how to identify them through signs and medical testing. The results of a thorough examination of the literature and diverse expert consultation are trustworthy and scientific. After TKA, there were several reasons of edema in the lower extremities. Blood test results might reveal an inflammatory reaction, inadequate venous return, muscle injury, and the status of recovery.

Keywords: Total knee replacement, postoperative swelling

INTRODUCTION

TKA is a successful therapeutic option for advanced knee osteoarthritis. Only in the United States, TKA is anticipated to reach 3.41 million interventions/year by 2040, since the number of operations is likely to continue to increase quickly globally. However, edema of the lower leg following TKA can occur in up to 90.7% of patients at 2 weeks-3 weeks after discharge and can remain for 90 days or more. The following issues might arise as a result of swelling and negatively impact the course and results of rehabilitation:

1. poor muscle activation and strength: Swelling brought on by joint-derived muscle inhibition results in diminished extensor strength and poor quadriceps activation, delaying recovery.
2. Limited joint flexion and difficult rehabilitation activities: Swelling limits joint flexion, making it difficult to complete exercises and limiting early postoperative joint mobility. Additionally, it affects patients' walking speed with time [1-3]. Swelling following TKA creates worries for patients, leading to a poor experience and low levels of satisfaction.
3. Skin-related complications: excessive swelling can result in blisters, skin breakdown, and increase the risk of joint infection. In order to enhance the postoperative prognosis, edema following TKA needs to be avoided with early management. Numerous causes of postoperative swelling, including inflammation, poor venous return, joint cavity hematoma, intracapsular synovial fluid, muscle injury and healing, ligament injury and healing, and comprehensive analysis of the anatomy of the knee, TKA procedure, and perioperative treatment, have been identified in the literature. It was not obvious, however, whatever tests may be used to differentiate between them. By interviewing a wide variety of specialists from other fields, this study attempted to clarify the reasons of TKA postoperative edema and how to identify them through signs and medical testing [4,5].

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