



Comprehensive management of knee osteoarthritis

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Perspective

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Abstract

Background: Osteoarthritis is a prevalent systemic disease that causes physical disability and diminishes quality of life by affecting all joint structures and surrounding tissues. In Kuwait, knee osteoarthritis is especially common among women. This article aims to share our experience with the staged treatment of knee osteoarthritis at a leading private hospital in Kuwait. Different treatment approaches are employed based on the severity of the condition, patient comorbidities, and age. These treatments range from conservative methods and joint-preserving surgeries in mild to moderate cases to total knee replacement for advanced stages.

Methods: Treatment approaches vary based on the severity of osteoarthritis, patient comorbidities, and age. For mild to moderate cases, conservative treatments and joint-preserving surgeries are utilized. Key steps in conservative treatment include patient education, lifestyle changes, medications, physical therapy, intra- and periarticular injections, weight loss, hydrotherapy, orthotic devices, and braces. When these measures are insufficient, knee arthroplasty is considered the final treatment option.

Results: No evidence-based medical treatment exists to halt or reverse knee Osteoarthritis (OA) progression. Consequently, available treatments primarily target pain reduction and enhanced knee function, which also benefit associated comorbidities. Despite conservative and joint-preserving surgical interventions, nearly all patients ultimately progress to the final stage: total knee replacement.

Conclusion: Early-stage osteoarthritis can be effectively managed with non-surgical approaches, which play a crucial role in preventing disease advancement and enhancing overall quality of life.

Keywords: Arthroscopy; Knee replacement; Osteoarthritis.

INTRODUCTION

Arthritis is a prevalent yet poorly understood condition, often used informally to describe joint pain or disease. Among its various forms, Osteoarthritis (OA) stands out as the most common cause of adult disability. Specifically focusing on OA of the knee, it leads to the progressive deterioration of the articular cartilage and surrounding knee structures, severely limiting patients' ability to perform Activities of Daily Living (ADLs). This condition encompasses both primary and secondary forms, with primary OA being more prevalent and typically arising from gradual cartilage degeneration over time. Secondary OA, on the other hand, can stem from factors like rheumatoid arthritis, inactivity, obesity, or joint trauma.

Managing knee OA revolves around alleviating pain, reducing inflammation, and enhancing or preserving mobility, function, and Health-Related Quality of Life (HRQoL). Various treatment modalities are employed across different healthcare settings, yet determining the most effective approach or combination of therapies remains uncertain. Total Knee Replacement (TKR) serves as a viable option for severe cases, albeit not all patients are suitable candidates. Moreover, TKR doesn't offer a permanent solution, often necessitating revision surgeries within a couple of decades. Thus, there's a pressing need to identify effective interventions that can alleviate pain, enhance function, and delay or prevent the need for surgery.

The prevalence of OA in the United States alone is staggering, affecting an estimated 30.8 million adults. Diagnosis in athletes presents particular challenges due to their high pain tolerance and eagerness to return to sports quickly, often delaying recognition of the condition. Age and gender also play significant roles in OA prevalence, with men being more affected in younger age groups, while women show higher prevalence rates in older age brackets. The lifetime risk of developing symptomatic knee OA is substantial, estimated at 45%.

Symptomatic knee OA frequently coexists with other health issues, with obesity being a predominant comorbidity affecting up to 90% of patients. This

comorbidity exacerbates the condition and contributes to a decreased quality of life. Opioids, commonly prescribed for pain management in OA, are not considered cost-effective, particularly in patients without comorbidities, as they have been shown to have limited efficacy, especially following Total Knee Arthroplasty (TKA).

Complications associated with OA can be severe, with hip fractures being one of the most common and debilitating consequences. Hip fractures require hospitalization and often result in permanent disability or even death, highlighting the significant impact of OA on patients' lives and healthcare systems. The utilization rate of total knee replacement procedures has surged in recent years, particularly among the 45 to 64 age group, reflecting both the increasing prevalence of knee OA and advancements in surgical techniques.

However, despite these developments, the escalating costs of healthcare pose a significant challenge, potentially burdening society and economies in the future. Currently, there are no medical or surgical interventions that offer a definitive solution to reverse or halt this concerning trend. Thus, there is an urgent need for further research and innovation in the management of OA to mitigate its impact on individuals and healthcare systems.

In conclusion, osteoarthritis, particularly affecting the knee joint, presents a significant burden on individuals and healthcare systems worldwide. Its prevalence, coupled with its debilitating consequences and economic implications, underscores the importance of effective management strategies. While various treatments exist, their efficacy and optimal utilization remain uncertain, highlighting the need for continued research and innovation to address this pressing public health challenge.

CONCLUSION

In conclusion, osteoarthritis, particularly knee osteoarthritis, presents a substantial burden on individuals and healthcare systems globally. Despite advancements in treatment modalities, including total knee replacement, the condition's prevalence continues to rise, accompanied by escalating healthcare costs. Furthermore,

comorbidities such as obesity exacerbate the disease, contributing to decreased quality of life. The challenges posed by osteoarthritis underscore the urgent need for innovative approaches to its management. Research efforts should focus on identifying cost-effective interventions that can alleviate pain, improve function, and delay or prevent the need for surgical intervention. Additionally, strategies aimed at early diagnosis and

intervention, particularly in high-risk populations such as athletes, are essential for improving outcomes and reducing the societal and economic burden associated with osteoarthritis. Collaboration between healthcare providers, researchers, policymakers, and patients is crucial to addressing this pressing public health challenge effectively.