

UNVEILING PSEUDO MENISCUS FORMATION AS A POTENTIAL SOURCE OF SEVERE PAIN IN TOTAL KNEE ARTHROPLASTY

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Introduction

End-stage knee osteoarthritis (OA) is a debilitating joint deteriorating condition, leading to significant pain and functional impairment. Effective pain management strategies are essential to alleviate the suffering and improve patient's quality of life. Surgical interventions, such as total knee arthroplasty (TKA), can often provide remarkable pain relief and restoration of function. However, despite these objectives, a notable number of cases do not achieve the intended outcomes, and continue to endure various degrees of pain and dissatisfaction). Pain management becomes crucial in addressing this issue effectively.

The causes of persistent pain following knee arthroplasty are diverse and multifaceted, encompassing both intra-articular and extra-articular factors. Intra-articular causes are further classified into mechanical and biological subgroups. Mechanical causes involve issues like laxity, aseptic loosening, component failure, periprosthetic osteolysis, and malrotation. However, one less recognized yet significant cause of persistent pain is the formation of pseudo meniscus. Pseudo meniscus is a form of soft tissue impingement that occurs when tissue resembling meniscus becomes entrapped between the femoral and tibial components of the knee implant. This condition leads to painful impingement, particularly in cases where meniscus tissue has been removed during surgery.

Materials and Methods

As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Einstein-Jefferson policy.
Patient consent was received for this study.

Case Report

72 YO M presented to the office 14 months post Total Knee Replacement for Knee OA. The patient Has complained of pain around the knee. The pain got worse with walking. The nonoperative treatment including physical therapy failed. In the exam, there were no effusion. No warmth, No erythema. Knee ROM 0-100 degrees. Tenderness over the medial tibiofemoral joint line. Quadriceps muscle and Hamstring 5/5. Sensory, vascular, and motor, distally intact. The lab reveiled ESR, CRP normal range. No pathologic finding in lab result. Imaging reveiled components are in place. No sign of loosening or infection. The patient underwent diagnostic arthroscopy. It was noted pseudomeniscus formation in medial compartment. after debridement and removal of pseudomenscus VAS score improved from 6 to1 from pre op to post op. Patient felt clinical outcome improvement. Recently, a 72-year-old male patient presented to our office 14 months after undergoing Total Knee Replacement for Knee OA.

The patient reported persistent pain around the knee, which worsened with walking. Nonoperative treatments, including physical therapy, had been unsuccessful. On examination, no joint effusion, warmth, or erythema were observed, and the knee exhibited a range of motion from 0 to 100 degrees. Tenderness was identified over the medial tibiofemoral joint line, with the Quadriceps and Hamstring muscles measuring 5/5 in strength. Sensory, vascular, and motor functions were intact, and laboratory results, including Erythrocyte Sedimentation Rate (ESR) and C-Reactive Protein (CRP), fell within the normal range. Imaging confirmed the proper positioning of components with no signs of loosening or infection. Subsequently, the patient underwent diagnostic arthroscopy, which revealed the presence of pseudomeniscus formation in the medial compartment. Following debridement and removal of the pseudomeniscus, the Visual Analog Scale (VAS) pain score improved significantly from 6 to 1 from pre-operative to post-operative assessments, resulting in a notable clinical improvement.

Discussion:

The etiology of pseudo meniscus formation is linked to hypertrophic synovitis impingement within the femoral-tibial compartments. Scar tissue forms due to metaplasia and migration of fibrocytes from the synovium to the joint. This scar tissue takes on a fibrocartilaginous structure unique to pseudo meniscus. Diagnosing pseudo meniscus-related pain involves a comprehensive assessment, including patient history, physical examination, radiographic evaluation, and laboratory studies. Symptoms such as joint line tenderness and painful stiffness typically emerge a few months after TKA. Treatment for pseudo meniscus-related pain involves arthroscopic evaluation and debridement of the entrapped tissue. Arthroscopic removal of the pseudo meniscus has shown promising results in terms of pain reduction and functional improvement. However, precision, and careful handling of the implanted prostheses are essential during the procedure to prevent complications. In conclusion, pseudo meniscus formation is a cause of persistent pain following TKA. Arthroscopic assessment and treatment offer a safe and effective approach to addressing this issue. This underscores the importance of recognizing and addressing this specific cause of ongoing pain after TKA.

References

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