

Neglected knee dislocation with osteoarthritis managed by total knee replacement: A case report

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ABSTRACT

This case report presents a 50-year-old male with chronic, untreated knee dislocation complicated by end-stage osteoarthritis (OA), following a traumatic injury a year prior. The patient presented with left knee pain, swelling, and restricted mobility. Radiographs confirmed joint degeneration and knee dislocation. Total knee replacement (TKR) was performed to address both degenerative changes and joint instability. The surgery proceeded without complications, and post-operative care included multimodal pain management, antibiotics, and structured physiotherapy. The patient experienced significant improvement in mobility, gait, and overall quality of life, with no post-operative issues. This case underscores the need to consider neglected joint injuries in chronic cases and demonstrates how timely surgical intervention, particularly TKR, can restore function in complex OA presentations. It also highlights the important role of comprehensive rehabilitation and a multidisciplinary approach in achieving optimal outcomes in orthopedic care.

Key words: Knee dislocation, Knee replacement, Neglected injury, Orthopedic surgery, Osteoarthritis

Neglected knee dislocation is an uncommon clinical entity, particularly when coupled with end-stage osteoarthritis (OA). The rarity of this condition and its complex presentation make it a valuable subject for clinical discussion [1,2]. Most knee dislocations are treated emergently due to their potential to cause vascular compromise, joint instability, and long-term functional impairment [3]. However, in resource-constrained environments or due to inadequate early medical evaluation, dislocations can be overlooked, leading to chronic disability [4]. When compounded by degenerative changes such as OA, surgical intervention becomes not only necessary but also technically challenging [5,6].

This case report is significant as it documents the successful use of total knee replacement (TKR) as a definitive treatment for a chronic, untreated knee dislocation with secondary osteoarthritic changes. The decision-making process, perioperative management, and positive outcome contribute important insights to orthopaedic literature, especially in addressing rare, late-presenting joint injuries [7,8]. Furthermore, the case emphasizes the importance of early diagnosis, interdisciplinary coordination, and patient-centered rehabilitation protocols. By sharing this case, we aim to enrich the clinical understanding of how neglected joint


injuries can be effectively managed through modern surgical approaches and structured post-operative care. This report serves as a reference for similar complex cases in orthopedic practice, particularly in settings where delayed presentation is common.

CASE PRESENTATION

A 50-year-old male presented to the orthopedics department with complaints of persistent left knee severe pain and swelling, 1 year following a fall. The pain was primarily aggravated by movement. He reported an inability to walk independently and had restricted joint mobility. He had no significant previous surgical and medical history. He followed a non-vegetarian diet, occasionally consumed alcohol, did not smoke, and maintained normal sleep and appetite patterns.

Clinical examination revealed a restricted range of motion and joint deformity. Radiographic imaging findings confirmed a chronic knee dislocation with degenerative changes consistent with OA, which is shown in Fig. 1a. During investigation, blood pressure was measured at 160/100 mmHg, pulse rate was 100 beats/min, and a reactive hepatitis C serology was found; the rest all were within normal limits as shown in Table 1.

Diagnostic imaging, including an X-ray of the left knee (Fig. 1a), indicated degenerative changes consistent with OA

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Figure 1: Pre (a) and post (b) operative knee X-ray images

Table 1: Different hematological and other parameters of the patient

Hematology	Observed value	Normal range
Hemoglobin	14.0 g/dL	14–18 g/dL
Red blood cells	5.99 g/dL	4–6 g/dL
Mean corpuscular volume	78.8 fL	76–99 fL
Mean corpuscular hemoglobin	23.9 pg	27–32 pg
Mean corpuscular hemoglobin concentration	30.3 g/dL	31–35 g/dL
Platelets	3.7 Lakh/cumm	1.5–4 Lakh/cumm
White blood cells	11700	4000–10000
Lymphocytes	30%	20–45
Monocytes	05%	2–80
Eosinophils	11%	1–4
Basophils	00%	0–0.5
Neutrophils	54%	40–70
Prothrombin time-international normalized ratio	15.3 s	11–16 s
Random blood sugar	94 mg/dL	<140 mg/dL
Blood urea	24 mg/dL	15–45 mg/dL
Serum creatinine	0.9	0.8–1.3
Sodium	144 mEq/L	135–155 mEq/L
Potassium	4.7 mEq/L	3.5–5.5 mEq/L
Chloride	101 mEq/L	98–107 mEq/L
Hepatitis C virus	Reactive	±
Human immunodeficiency virus	Non-reactive	+/-
Hepatitis B surface antigen	Non-reactive	+/-

and evidence of an old, untreated dislocation. Echocardiography findings showed preserved systolic function and Grade I diastolic dysfunction, without regional wall motion abnormalities. After evaluating all the patient's complaints, laboratory investigations, and radiological findings, it was confirmed that the patient was diagnosed with neglected knee dislocation with OA. For the management of the condition, the patient was advised to undergo TKR surgery.

All the pre-operative evaluations were done, and the patient was scheduled for a TKR of the affected limb after taking the patient's consent. For surgery, anesthesia was initiated at 7:00

pm using 0.5% bupivacaine (3.5 mL) administered intravenously. The surgical procedure began at 7:15 pm and was completed successfully by 8:15 pm. The surgery went uneventfully, and post-X-ray findings were status post-TKR (left knee) with a well-positioned prosthesis (Fig. 1b).

Post-operative care involved a standard medication regimen, including a proton pump inhibitor (pantoprazole), an antibiotic (pulmocef LB 500 mg), an analgesic (zerodol SP 100 mg), multivitamins (becosules), and a Vitamin C supplement (limcee 500 mg). The patient was educated on the importance of post-operative physiotherapy to regain mobility and joint function. He was also counseled regarding medication adherence and dietary precautions. No adverse drug reactions or drug-related problems were noted during the hospital stay. The patient recovered well and was discharged with advice for continued rehabilitation and follow-up.

DISCUSSION

Neglected knee dislocations are exceedingly rare and pose significant diagnostic and therapeutic challenges, especially when compounded by secondary OA. In the current case, the patient experienced a chronic dislocation that went untreated for over a year, ultimately leading to joint degeneration, instability, and functional impairment. Such cases are sparsely documented in the literature due to their rarity. Literature reported favorable outcomes using a hinged TKR in a patient with neglected posterior dislocation and post-traumatic arthritis [7].

Similarly, other researchers described a 2-year-old untreated knee dislocation managed with total knee arthroplasty, underscoring the complexity of individualized surgical planning [1]. Another research emphasized the viability of TKA for chronic post-traumatic deformities and dysfunction [6]. Another article demonstrated that TKA can restore alignment and function in patients with long-standing knee dislocations, especially when soft-tissue balancing is optimized [2]. Further studies validated the use of constrained prostheses in complex arthritic knees, including those with ligamentous deficiency following trauma [9].

Differential diagnoses in such cases include post-traumatic arthritis, which mimics primary OA but is secondary to prior joint injury [5]. Another consideration is septic arthritis, which typically presents with joint destruction accompanied by fever, elevated inflammatory markers, or leukocytosis. Rheumatoid arthritis may present with bilateral involvement and systemic symptoms, especially in middle-aged patients. In addition, neuropathic arthropathy (Charcot joint), commonly seen in long-standing diabetics, can present as painless joint dislocation and may be mistaken for a neglected injury [10]. Other potential mimickers include pigmented villonodular synovitis and synovial chondromatosis, which can cause chronic joint swelling and damage [11,12].

Radiographic and advanced imaging, alongside clinical history, remain essential for differential diagnosis and operative planning.

Ultimately, TKA is often the most reliable option in addressing late-presenting knee dislocations with secondary degenerative changes. Long-term studies have shown that, when appropriately selected and executed, TKA in post-traumatic settings can restore mobility and relieve pain effectively [13]. A multidisciplinary approach involving orthopedists, radiologists, anesthesiologists, and physiotherapists is crucial to achieving optimal outcomes [8].

This case contributes to the limited pool of knowledge and evidence regarding the treatment of neglected knee dislocations and highlights the importance of prompt diagnosis and coordinated care for prognosis.

CONCLUSION

Neglected knee dislocation associated with OA presents quite an uncommon and complex clinical challenge. TKR proved to be an effective solution to provide functional recovery, restoring mobility, pain management, and significantly improving the patient's quality of life when performed with adequate pre-operative planning and post-operative care. For optimal outcomes, a multidisciplinary treatment approach and early diagnosis are essential.

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