



A Four-Months-Neglected Anterior Shoulder Dislocation Treated with Open Reduction and Internal Fixation: A Case Report

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Abstract

Neglected anterior shoulder dislocation (NASD) is an uncommon yet clinically demanding condition, largely because diagnosis and treatment are frequently delayed. Patients often develop secondary problems such as glenoid bone loss, capsular contracture, and ongoing instability, all of which call for a carefully chosen surgical strategy. This report describes the management of a chronic case using open reduction and internal fixation. A 25-year-old man was seen after sustaining an anterior shoulder dislocation that had remained untreated for four months. Clinical examination combined with plain radiographs established the diagnosis. Through a deltopectoral approach the glenohumeral joint was reduced under direct vision and stabilized with two 2.0-mm K-wires. At the two-week review both clinical examination and repeat radiographs confirmed that the joint had been restored to an anatomic position with good stability. The patient had no appreciable sensory or motor deficit in the limb, and neurovascular function remained intact. These early results indicate that open reduction and internal fixation can reliably address chronic NASD and reduce the risk of recurrent instability. Nevertheless, longer-term surveillance is required to confirm lasting joint stability and to detect any late complications that may develop.

Keywords: *Neglected Anterior Shoulder Dislocation, Open Reduction, Internal Fixation, K-Wire, Shoulder Instability.*

INTRODUCTION

Neglected anterior shoulder dislocation (NASD) is a relatively rare clinical condition but presents high complexity in modern orthopedic practice, primarily due to delayed diagnosis and management, which significantly impairs joint function. This condition is associated with various structural complications, including glenoid bone loss, anterior and posterior capsular contracture, and persistent postoperative instability, thereby posing substantial clinical challenges (Sahu & Gupta, 2024).

NASD represents a significant public health challenge in developing countries, where delayed diagnosis and management of trauma are prevalent owing to restricted access to specialized orthopedic services, low community health literacy, and the widespread initial reliance on traditional bone-setting practices such as sangkal putung (manual manipulation and massage by untrained practitioners) before patients seek professional medical care (Winanto & Tirta, 2024).

Epidemiologically, NASD has been reported to occur less frequently than neglected posterior shoulder dislocation (NPSD), accounting for approximately one-third of all neglected shoulder dislocation cases. However, in certain contexts, the prevalence of NASD may exceed that of NPSD, particularly among populations with limited access to healthcare services and delayed initial diagnosis (Zari et al., 2023). Epidemiological data indicate that neglected anterior shoulder dislocation (NASD) occurs less frequently than neglected posterior shoulder dislocation (NPSD) in general orthopedic populations, accounting for approximately one-third of all neglected shoulder dislocation cases (Sahu et al., 2024). Chronic neglected anterior dislocations remain exceedingly rare overall, representing only 0.12%–0.18% of all shoulder dislocations reported in the literature (Prasetya et al., 2025). Nevertheless, the relative prevalence of NASD may surpass that of NPSD in specific contexts involving populations with limited healthcare access and prolonged delays in initial diagnosis (Mabaso et al., 2026). These patterns are particularly pronounced in resource-constrained settings where systemic barriers exacerbate the progression of acute injuries into chronic neglected conditions (Sahu et al., 2021).

The therapeutic approach to NASD is predominantly surgical, with open reduction being the most commonly employed intervention, especially in cases where the dislocation has persisted for several weeks (Sahu, 2022). Previous studies have demonstrated that this procedure yields relatively favorable clinical outcomes in terms of maintaining joint stability and function. Nevertheless, the variability in surgical techniques, including combinations with the Latarjet procedure or internal fixation, indicates the absence of a standardized clinical consensus for managing this condition (Zari et al., 2023).

The absence of an integrated treatment standard for chronic neglected anterior shoulder dislocation reflects a significant research gap, particularly in determining the most effective surgical approach based on chronicity and patient-specific anatomical conditions (Mabaso et al., 2026). This deficiency arises because progressive anatomical alterations, including substantial glenoid bone loss and soft tissue contractures, demand highly individualized interventions to restore joint stability and function (Rachuene et al., 2025). Most existing studies are still dominated by case reports with limited sample sizes, thereby restricting the development of strong evidence-based recommendations (Sahu et al., 2024). Consequently, the formulation of comprehensive clinical guidelines remains impeded, underscoring the urgent need for larger-scale prospective investigations to advance patient outcomes in this complex orthopedic entity (van Gerven et al., 2024). Most existing studies are still dominated by case reports with limited sample sizes, thereby restricting the development of strong evidence-based recommendations (Lubis et al., 2019).

These sociocultural and systemic factors frequently transform acute dislocations into chronic, neglected cases, leading to advanced structural complications including glenoid bone loss, anterior and posterior capsular contracture, and persistent postoperative instability that severely impair joint function and quality of life (Sahu & Gupta, 2024). Epidemiologically, NASD accounts for approximately one-third of all neglected shoulder dislocation cases and occurs less frequently than neglected posterior shoulder dislocation overall; however, its relative prevalence is notably elevated in populations with limited healthcare resources and prolonged time to initial diagnosis (Zari et al., 2023). Although open reduction remains the predominant surgical intervention for chronic cases persisting beyond several weeks and yields relatively favorable outcomes in terms of joint stability, the marked variability in adjunctive techniques underscores the absence of standardized clinical consensus (Sahu, 2022; Lubis et al., 2019).

Based on this research gap, the present study aims to analyze the effectiveness of open reduction combined with internal fixation in cases of chronic NASD. This investigation is expected to provide empirical contributions toward the development of more standardized, evidence-based management strategies tailored to resource-constrained settings and to strengthen the overall evidence base in clinical orthopedic practice.

METHOD

This study adopted a qualitative descriptive approach framed as a case report to examine the clinical management and underlying health-seeking behaviour associated with a neglected anterior shoulder dislocation (NASD) (Villamin et al., 2025). The case report method was chosen because it allows for a detailed, context-specific exploration of this uncommon presentation, particularly the diagnostic findings and surgical steps involved (Sahu & Gupta, 2024). The work also gave attention to postoperative recovery and the reasons patients may postpone seeking care in similar situations (Sahu et al., 2021). Taken together, the design supports a richer understanding of atypical orthopaedic cases and can help refine how care pathways are organised in practice (Roy et al., 2024).

The study was carried out at QADR Hospital, Tangerang, Indonesia, in the Department of Orthopedics and Traumatology. Observation covered the period from admission through surgery and the first two weeks of follow-up. The patient was a 25-year-old man who presented with a four-month neglected anterior shoulder dislocation confirmed on clinical examination and plain radiographs. Data were drawn from several sources to build a complete picture of the case (Al-Sahab et al., 2023). Core clinical information came from direct observation, physical examination, and supporting investigations that included anteroposterior shoulder radiography (Kim et al., 2025). Additional material was obtained from the patient's medical records, including laboratory results; comparable record-based approaches have been used in large-scale analyses involving 10.6 million free-text entries from 102,525 patients (Lin et al., 2025). Perioperative notes and postoperative progress documentation were also reviewed to trace the full clinical course (Brown et al., 2022).

To complement the clinical record, a semi-structured interview was conducted with the patient during the hospital admission. The conversation explored what had happened after the original injury and the circumstances that led to delayed presentation for definitive treatment. Points discussed included how serious the injury had seemed at the time, ease of access to medical facilities, financial pressures, health-insurance coverage, transport difficulties, any earlier contact with traditional or non-medical practitioners, and other sociocultural influences on the decision to seek care. The interview was held in the local language, audio-recorded with the patient's consent, and transcribed for analysis.

Surgical treatment consisted of open reduction and internal fixation performed via the deltopectoral approach under general anaesthesia. The humeral head was exposed, fibrotic tissue surrounding the glenoid cavity was excised, the humeral head was reduced, and stability was achieved with two 2.0-mm Kirschner wires. The wound was then closed, the arm placed in a sling with swathe, and the patient kept in hospital for three days of monitoring before discharge with arranged outpatient review. Standard orthopaedic instruments were used together with 2.0-mm Kirschner wires, surgical sutures, normal saline for irrigation, and conventional radiographic equipment. A semi-structured interview guide was prepared in advance to steer discussion of the patient's path to care and the barriers encountered along the way.

Analysis remained descriptive throughout. Clinical observations, radiographic findings, operative details, and postoperative progress were presented in narrative form. Interview transcripts were examined thematically: they were read repeatedly, coded, and

grouped into recurring themes that covered healthcare access, socioeconomic constraints, health beliefs, and treatment-seeking decisions. Combining the clinical data with the patient's own account produced a more rounded view of both the medical and public-health dimensions of the case.

Credibility was strengthened through methodological triangulation that cross-checked clinical observations, radiographic images, intraoperative findings, medical-record entries, and interview narratives. Regular discussions with orthopaedic colleagues and public-health researchers provided an additional check against individual bias and helped refine the interpretation of both the technical and contextual aspects of the case.

RESULT

CASE REPORT

A 25-year-old man working in the private sector, who had finished senior high school and was covered by Indonesia's National Health Insurance (JKN), presented to QADR Hospital in Tangerang complaining of ongoing pain, stiffness, and restricted movement in his right shoulder. Four months earlier he had fallen and initially sought help from a local traditional bonesetter, receiving several sessions of manual manipulation. His symptoms, however, did not improve, and he continued to have difficulty with everyday tasks and work that required use of the right arm. During the first two months after the injury the patient expected gradual spontaneous recovery and therefore did not seek formal medical care. Persistent functional limitation and inability to resume normal occupational activities eventually led him to attend the orthopedic clinic at QADR Hospital roughly four months after the original trauma.

On admission his vital signs were normal and general physical examination of the head, chest, and abdomen showed no abnormalities. Musculoskeletal examination demonstrated marked limitation of right shoulder motion together with stiffness and impaired arm function. Routine laboratory tests, including complete blood count and blood glucose, were within normal limits. Plain radiographs confirmed a neglected anterior dislocation of the right glenohumeral joint (Figure 1).

Open reduction and internal fixation using Kirschner wires was performed. Postoperative radiographs showed successful joint reduction and adequate fixation (Figure 2). The limb was immobilized in an arm sling with swathe support (Figure 3). The patient stayed in hospital for three days and maintained stable neurovascular status in the affected arm. At the two-week follow-up visit, neurological examination revealed no sensory or motor deficits, and the patient reported noticeable improvement in shoulder stability and function.



Figure 1. X-ray antero-posterior view of the right shoulder showing anterior dislocation of glenohumeral joint.

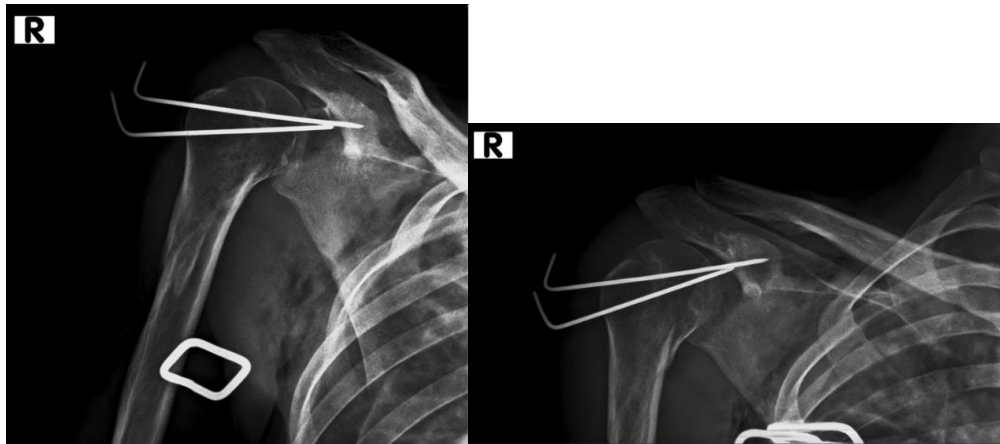


Figure 2. Post-operative X-ray antero-posterior view of the right shoulder showing a reduce glenohumeral joint with fixation of two Kirschner wire.



Figure 3. Patient using Arm sling with Swathe

DISCUSSION

Anterior shoulder dislocation is the most common type of shoulder dislocation, accounting for approximately 95% of all cases (Lubis et al., 2019). Although neglected anterior shoulder dislocation (NASD) is relatively uncommon, it remains a clinically important condition because delayed diagnosis and treatment can result in substantial functional impairment, complex surgical management, and long-term disability. Chronic shoulder dislocation is generally defined as a dislocation that remains unreduced or unrecognized for more than 3–4 weeks after the initial injury (Chaudhary et al., 2016). In the present case, the patient presented four months after the initial traumatic event, illustrating the consequences of delayed recognition and referral.

From a public health perspective, this case highlights the importance of early detection and timely referral at the primary healthcare level. In many low- and middle-income settings, patients with shoulder trauma frequently seek initial treatment at community clinics, primary healthcare centers (Puskesmas), traditional healers, or non-specialized healthcare facilities. Failure to recognize persistent shoulder dislocation may result in delayed referral to orthopedic services, allowing progressive pathological changes to occur, including capsular contracture, glenoid bone loss, Hill-Sachs lesions, rotator cuff dysfunction, and degenerative joint changes. Strengthening the capacity of primary healthcare providers to identify warning signs such as persistent pain, limited range of motion, visible shoulder deformity, and functional impairment following trauma

could facilitate earlier diagnosis and referral. Standardized musculoskeletal assessment protocols and increased access to basic radiographic evaluation may further support secondary prevention efforts aimed at preventing the progression of acute shoulder dislocation into chronic or neglected conditions.

The present case also demonstrates the substantial socioeconomic burden associated with delayed treatment. The patient was a 25-year-old individual within the productive working-age population who experienced loss of upper-limb function for approximately four months before receiving definitive surgical management. Functional limitations involving the dominant or non-dominant upper extremity can significantly reduce work capacity, restrict daily activities, and impair social participation. For individuals engaged in manual labor or occupations requiring upper-limb strength and mobility, prolonged disability may lead to temporary unemployment, reduced income, and increased dependence on family members. In addition to direct medical costs related to surgical treatment, hospitalization, rehabilitation, and follow-up care, indirect costs resulting from productivity loss may represent a considerable economic burden for both the patient and society. Consequently, timely diagnosis and referral are essential not only to improve clinical outcomes but also to minimize the broader social and economic consequences of neglected shoulder dislocation.

NASD presents significant treatment challenges because prolonged dislocation results in both osseous and soft-tissue alterations that frequently necessitate surgical intervention. Open reduction remains the preferred treatment option for chronic dislocations of extended duration, particularly when closed reduction is unlikely to succeed or may increase the risk of iatrogenic injury (Lubis et al., 2019). In the present case, open reduction and glenohumeral K-wire fixation were performed to restore joint congruity and maintain postoperative stability. The procedure successfully achieved reduction and functional improvement during the available follow-up period.

Complications associated with chronic shoulder dislocation and its surgical management remain important considerations. Nerve injuries, including neuropraxia involving branches of the brachial plexus, may occur during surgical exploration and reduction procedures. In this case, transient ulnar nerve neuropraxia developed postoperatively but demonstrated clinical improvement during follow-up. Furthermore, long-term complications such as recurrent instability, avascular necrosis of the humeral head, and glenohumeral osteoarthritis have been reported following treatment of chronic shoulder dislocations (T. Li et al., 2017). Because follow-up in the present report was relatively short, long-term surveillance is necessary to evaluate joint stability, functional recovery, and the potential development of degenerative changes.

Overall, this case emphasizes that neglected anterior shoulder dislocation should be viewed not only as an orthopedic challenge but also as a preventable public health issue. Earlier recognition, appropriate imaging, and prompt referral from primary healthcare facilities may reduce the incidence of chronic cases, improve functional outcomes, decrease healthcare costs, and minimize productivity losses among young adults of working age.

CONCLUSION

Based on the research that has been conducted, it can be explained that neglected anterior shoulder dislocation (NASD) represents a complex orthopedic condition resulting from delayed diagnosis and treatment, which may lead to significant functional impairment and joint instability. The findings demonstrated that open reduction combined with internal fixation using two 2.0-mm Kirschner wires successfully restored glenohumeral joint congruity and achieved satisfactory postoperative stability. Clinical

and radiographic evaluations confirmed successful reduction of the dislocated shoulder without significant neurovascular complications during the early postoperative period. These findings indicate that open reduction with internal fixation is an effective treatment option for chronic *NASD*, particularly in young adult patients presenting with prolonged untreated dislocation.

Furthermore, this case highlights the important role of timely healthcare-seeking behavior and early referral systems in preventing the progression of acute shoulder dislocation into chronic neglected conditions. Delayed utilization of formal healthcare services, influenced by initial reliance on traditional treatment and limited awareness of injury severity, contributed substantially to disease chronicity. From a public health perspective, strengthening musculoskeletal assessment capacity at primary healthcare facilities and improving community health literacy may facilitate earlier diagnosis and intervention. Consequently, integrated preventive and curative strategies are essential to reduce disability, improve functional outcomes, and minimize the socioeconomic burden associated with neglected shoulder dislocations.

Future studies should involve larger patient populations and longer follow-up periods to evaluate the long-term effectiveness and safety of open reduction with internal fixation in chronic *NASD*. Comparative investigations examining different surgical techniques and rehabilitation protocols are also warranted to establish evidence-based treatment guidelines. Additional research should explore patient-related, sociocultural, and healthcare-system factors contributing to delayed treatment-seeking behavior. Furthermore, public health studies focusing on early detection, referral pathways, and community education programs are recommended to prevent the occurrence of neglected shoulder dislocation.

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