



СРПСКИ АРХИВ
ЗА ЦЕЛОКУПНО ЛЕКАРСТВО
SERBIAN ARCHIVES
OF MEDICINE

Address: 1 Kraljice Natalije Street, Belgrade 11000, Serbia
☎ +381 11 4092 776, Fax: +381 11 3348 653
E-mail: office@srpskiarhiv.rs, Web address: www.srpskiarhiv.rs

Paper Accepted*

ISSN Online 2406-0895

Case Report / Приказ болесника

Bojan Milenković^{1,*}, Miljan Bilanović¹, Slađan Timotijević¹, Miroslav Tatić¹, Đorđe Kolak²

Isolated ipsilateral shoulder and elbow dislocation

Изолована ипсилатерална луксација зглоба рамена и зглоба лакта

¹University of Belgrade, Faculty of Medicine, Belgrade, Serbia; ¹Bežanijska Kosa University Hospital Medical Center, Department of Orthopedics and Traumatology, Belgrade, Serbia;

²Kragujevac University Clinical Center, Clinic for Orthopedic Surgery and Traumatology, Kragujevac, Serbia

Received: July 4, 2024

Revised: January 18, 2025

Accepted: February 17, 2025

Online First: February 22, 2025

DOI: <https://doi.org/10.2298/SARH240704019M>

* **Accepted papers** are articles in press that have gone through due peer review process and have been accepted for publication by the Editorial Board of the *Serbian Archives of Medicine*. They have not yet been copy-edited and/or formatted in the publication house style, and the text may be changed before the final publication.

Although accepted papers do not yet have all the accompanying bibliographic details available, they can already be cited using the year of online publication and the DOI, as follows: the author's last name and initial of the first name, article title, journal title, online first publication month and year, and the DOI; e.g.: Petrović P, Jovanović J. The title of the article. *Srp Arh Celok Lek*. Online First, February 2017.

When the final article is assigned to volumes/issues of the journal, the Article in Press version will be removed and the final version will appear in the associated published volumes/issues of the journal. The date the article was made available online first will be carried over.

***Correspondence to:**

Bojan MILENKOVIĆ

Bežanijska Kosa University Hospital Medical Center, Department of Orthopedics and Traumatology, 11000 Belgrade, Serbia

E-mail: bojanmilenkovic89@gmail.com

Isolated ipsilateral shoulder and elbow dislocation

Изолована ипсилатерална луксација зглоба рамена и зглоба лакта

SUMMARY

Introduction Joint dislocation is the loss of congruence of the joint surfaces. This is a relatively common injury of the musculoskeletal injury. Among the large joints, shoulder joint dislocation has the highest incidence of 24/100,000/year, of which 94–97% are anterior, 1% are inferior, and the remaining injuries are posterior shoulder dislocations. The second most frequent injury is elbow dislocation, with an incidence of 5.2/100,000/year. Among these, over 80% are posterolateral dislocations.

Case outline A 57-year-old female patient was injured during an accidental same-level fall sustaining isolated injuries – anterior dislocation of the shoulder joint and a posterolateral dislocation of the elbow joint. Upon sustaining the described injuries, she was treated conservatively with good functional results.

Conclusion A review of the literature reveals that the combination of ipsilateral shoulder and elbow joint dislocations is a rare injury, with shoulder dislocation often being overlooked. Proper anamnesis, along with a thorough examination of the joints both proximally and distally to the injured joint, is crucial. If performed adequately, these injuries can often be successfully managed nonoperatively, with closed reduction, immobilization, and rehabilitation, leading to satisfactory functional recovery.

Keywords: shoulder dislocation; elbow dislocation; ipsilateral dislocation; isolated dislocation

САЖЕТАК

Увод Ишчашење зглоба представља губитак конгруентности зглобних површина. То су релативно честе повреде локомоторног апарата. Од великих зглобова, највећу инциденцу има ишчашење зглоба рамена, са учесталошћу од 24/100.000 / годину дана, од чега су 94–97% предње луксације, 1% доње, а остало задње луксације. На другом месту је ишчашење зглоба лакта, са учесталошћу 5.2/100.000 / годину дана, а међу њима су преко 80% постеролатералне луксације.

Приказ болесника Болесница стара 57 година, повређена је при случајном паду на истом нивоу, при чему је задобила изоловане повреде у виду предњег ишчашења зглоба рамена и постеролатералног ишчашења зглоба лакта. Након задобијања описаних повреда, лечена је конзервативно са добрим функционалним резултатима.

Закључак Прегледом литературе, установили смо да је комбинација ипсилатералног ишчашења зглоба рамена и ишчашења зглоба лакта ретка повреда, код које се лако може превидети ишчашење зглоба рамена. Најважније је узети добру анамнезу и урадити детаљан преглед зглобова проксимално и дистално од повређеног. Ако се прегледу приступи адекватно, ове повреде се могу успешно лечити неоперативним путем, са затвореном репозицијом, имобилизацијом и рехабилитацијом, уз добар функционални резултат.

Кључне речи: ишчашење зглоба рамена; ишчашење зглоба лакта; ипсилатерално ишчашење; изоловано ишчашење

INTRODUCTION

Reviewing the available literature, we identified two groups of combined shoulder and elbow dislocations. The first group includes patients with only shoulder and elbow joint dislocations, while the second group consists of patients with other associated injuries. Further differences among the presented cases refer to the type of dislocation (anterior, posterior, or inferior shoulder joint dislocation). Thus, Meena et al. [1] described a 30-year-old man, injured in a traffic accident as a motorcyclist, with ipsilateral dislocation of the shoulder joint and elbow joint, without associated injuries. Other studies describing isolated ipsilateral shoulder and elbow dislocations state that they occur as the result of low-energy trauma. Mandujano and Izaguirre [2] described an 86-year-old woman, injured during a same-level fall, wherein she sustained an ipsilateral inferior shoulder joint dislocation and a posterior elbow joint dislocation, while some other authors described patients with ipsilateral anterior shoulder joint dislocation and

posterior elbow joint dislocation [1, 3–7]. In the descriptions of the non-isolated shoulder and elbow dislocation injuries, associated injuries – open wounds, fractures, and neurovascular damage, are mentioned. Fractures of the greater tubercle of the humerus [8, 9], open wounds in the region of the medial epicondyle of the humerus [10, 11], and injuries of the axillary nerve [3, 9] are most commonly described.

CASE REPORT

A 57-year-old female patient was examined at our clinic complaining of pain in her left elbow and the inability to perform any movement of the elbow. She reported an injury sustained one hour before coming to our clinic, having tripped and fallen over a chair. She denied other injuries or any previous dislocations. The clinical findings showed swelling and deformity of the left elbow with the arm slightly abducted and externally rotated in the shoulder joint, with the elbow joint in flexion and neutral pronosupination. She supported the injured arm with her other hand. The neurovascular findings were normal. Also, the left shoulder joint was deformed, the acromion lateral edge was prominent, and the deltoid oval contour was distorted and flattened, the so-called epaulet sign. Encountering such a clinical finding, with the prior consent of the patient, we took photographs, which makes this case the only photo-documented case with such a combination of injuries in the currently available literature (Figure 1). After radiographic diagnostics, the diagnosis of anterior dislocation of the humeroscapular joint and posterolateral dislocation of the elbow joint was established, without any other osteoarticular lesions (Figures 2 and 3). With the excellent compliance of the patient, and with the use of analgesedation, we performed manual closed reduction of both joints. First, a closed reduction of the elbow joint was performed, with the patient positioned supine, by applying the technique of longitudinal traction to the forearm with the elbow in flexion and supination, while pushing the olecranon over the distal end of the humerus. Humeroscapular joint reduction was then performed using Cooper's technique [12]. After the reductions were performed, the radial pulse, motor function, and sensation were normal, and follow-up X-rays showed that both joints were congruent, without iatrogenic injuries in terms of fractures (Figures 4, 5, and 6). The arm was immobilized in a Desault orthosis for three weeks, whereupon the patient began physical therapy and rehabilitation. At the follow-up examination, eight weeks after the injury, the patient had palpable painful tenderness on the inner side of the elbow joint and a positive valgus stress test. Follow-up X-rays showed both joints to be congruent, with minor heterotopic calcifications in the region of the ulnar collateral ligament. The patient was advised to continue physical therapy. The functional outcome 12 weeks after injury was good. The patient was

experiencing no pain, she had a full range of motion in the shoulder joint, a full range of pronation–supination motion, as well as flexion in the elbow joint. However, she had a loss of terminal extension of 20 degrees (Figures 7 and 8).

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Written consent to publish all shown material was obtained from the patient.

DISCUSSION

Suman [13] was the first to describe this injury, in 1981. So far, seven cases have been reported with isolated injuries – ipsilateral dislocation of the shoulder joint and elbow joint, without associated soft tissue, osteoarticular and neurovascular injuries. Like the authors of similar studies, we concluded that in the clinical examination of the patient, it is most important to take a good history, to examine the injured joint as well as the neighboring joints, because a seemingly more serious injury can mask another one, and consequently lead to a potentially permanent decrease or loss of function in this joint.

While the clinical approach to diagnosing and managing these injuries has been outlined, several areas warrant further investigation. Future research should focus on refining diagnostic techniques, particularly in the early detection of associated injuries that may not be immediately obvious. Advanced imaging modalities such as MRI and CT scans could be explored to better visualize soft tissue and bone damage in patients with dual joint dislocations.

In terms of treatment, there is a need for standardized protocols addressing the management of both acute and chronic cases. The effectiveness of different reduction techniques and post-reduction rehabilitation protocols could be evaluated through prospective clinical trials. Additionally, more attention should be given to the long-term outcomes of these patients, particularly in terms of joint stability, range of motion, and the potential for early onset arthritis or other degenerative conditions.

Follow-up care for patients with this type of injury is equally important. Research should aim to identify the most effective follow-up schedules and intervention strategies to monitor recovery and prevent complications. The development of evidence-based guidelines for follow-up care could improve patient outcomes and reduce the likelihood of permanent disability.

Conflict of interest: None declared.

REFERENCES

1. Meena S, Saini P, Rustagi G, Sharma G. Ipsilateral shoulder and elbow dislocation: a case report. *Malays Orthop J.* 2012;6(1):43–5. [DOI: 10.5704/MOJ.1203.001] [PMID: 25279042]
2. Mandujano SJI, Izaguirre PME. Luxación erecta de hombro con luxación posterior de codo ipsilateral simultánea sin lesión ósea asociada: reporte de caso. *Ortho-tips.* 2022;18(2):141–4. [DOI: 10.35366/105504]
3. Prada C, Romero L, Espinosa Á. Ipsilateral elbow and shoulder dislocation: a case report. *J Shoulder Elbow Surg.* 2019;28(7):e232–7. [DOI: 10.1016/j.jse.2019.04.038] [PMID: 31230786]
4. Essoh JBS, Kodo M, Traoré A. Ipsilateral dislocation of the shoulder and elbow: a case report. *Niger J Surg Res.* 2005;7(3):319–20. [DOI: 10.4314/njsr.v7i3.12307]
5. Thomas R, Raffic M, Anoop S. Ipsilateral shoulder and elbow dislocation: case report. *Journal of Trauma and Orthopaedic Surgery.* 2020;15(1):12–3. [DOI: 10.13107/kjo.2019.v32i02.025]
6. David-West KS. Ipsilateral dislocation of shoulder and elbow joints. *J Trauma Treat.* 2013;2(2):166. [DOI: 10.4172/2167-1222.1000166]
7. Dabkowski TR, Parikh A, Olivas Michels CS. Ipsilateral Shoulder and Elbow Dislocation. *J Emerg Med.* 2024;67(3):e305–e309. [DOI: 10.1016/j.jemermed.2024.03.039] [PMID: 39034161]
8. Lindor Diop A, Coundoul C, Amadou Ba P, Diouf M, Macodou Ndiaye R, Diouf Niang C. Ipsilateral simultaneous shoulder and elbow dislocation: a case report. *Open Journal of Orthopedics.* 2022;12(5):236–41. [DOI: 10.4236/ojo.2022.125022]
9. Utkan A, Açar A, Fakioğlu RC, Köse CC, Özkurt B. Ipsilateral simultaneous inferior shoulder dislocation and posterior elbow dislocation: a case report. *Jt Dis Relat Surg.* 2020;31(3):614–8. [DOI: 10.5606/ehc.2020.74939] [PMID: 32962598]
10. Mohapatra A, Choudhury P. An unusual case of ipsilateral shoulder and elbow dislocation. *J Ayub Med Coll Abbottabad.* 2021;33(4):708–9. [PMID: 35124939]
11. Cobanoğlu M, Yumrukcal F, Karataş C, Duygun F. Simultaneous shoulder and elbow dislocation. *BMJ Case Rep.* 2014;2014:bcr2014204686. [DOI: 10.1136/bcr-2014-204686] [PMID: 24859563]
12. Gottlieb M. Shoulder dislocations in the emergency department: a comprehensive review of reduction techniques. *J Emerg Med.* 2020;58(4):647–66. [DOI: 10.1016/j.jemermed.2019.11.031] [PMID: 31917030]
13. Suman RK. Simultaneous dislocations of the shoulder and the elbow. *Injury.* 1981;12(5):438. [DOI: 10.1016/0020-1383(81)90022-x] [PMID: 7263060]



Figure 1. Clinical presentation of ipsilateral dislocation of the shoulder joint and the elbow joint [source: Photographic Archive, Bežanijska Kosa University Hospital Medical Center]



Figure 2. Anterior-posterior X-ray of the left humerus – isolated ipsilateral dislocation of the shoulder and elbow joint [source: Picture Archiving and Communication System (PACS), Bežanijska Kosa University Hospital Medical Center]



Figure 3. Lateral X-ray of the left elbow – posterolateral elbow joint dislocation [source: PACS, Bežanijska Kosa University Hospital Medical Center]



Figure 4. Clinical presentation after closed reduction of ipsilateral shoulder and elbow dislocations [source: Photographic Archive, Bežanijska Kosa University Hospital Medical Center]

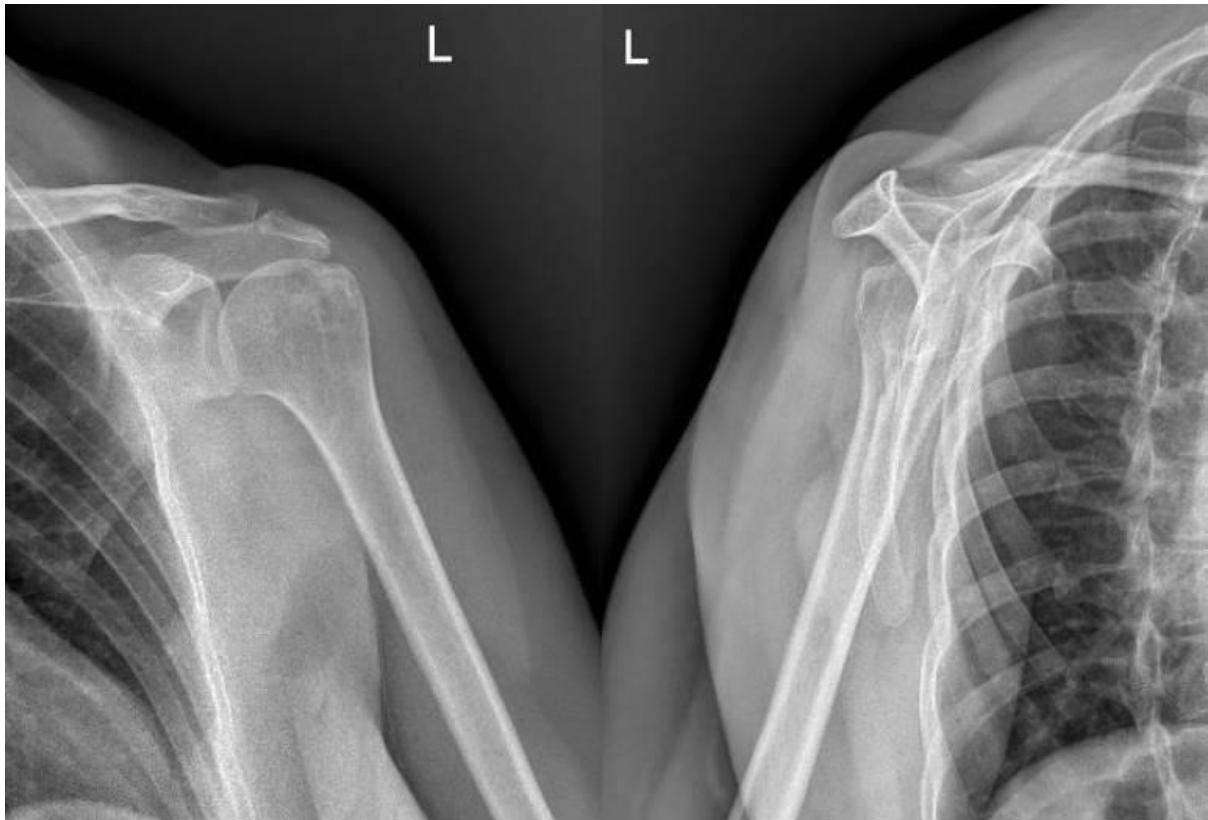


Figure 5. Anterior-posterior X-ray of the left shoulder and Y radiography of the scapula – status after closed reduction, the shoulder joint is congruent [source: PACS, Bežanijska Kosa University Hospital Medical Center]



Figure 6. Anterior-posterior and lateral radiography of the left elbow – status after closed reduction, the elbow joint is congruent [source: PACS, Bežanijska Kosa University Hospital Medical Center]

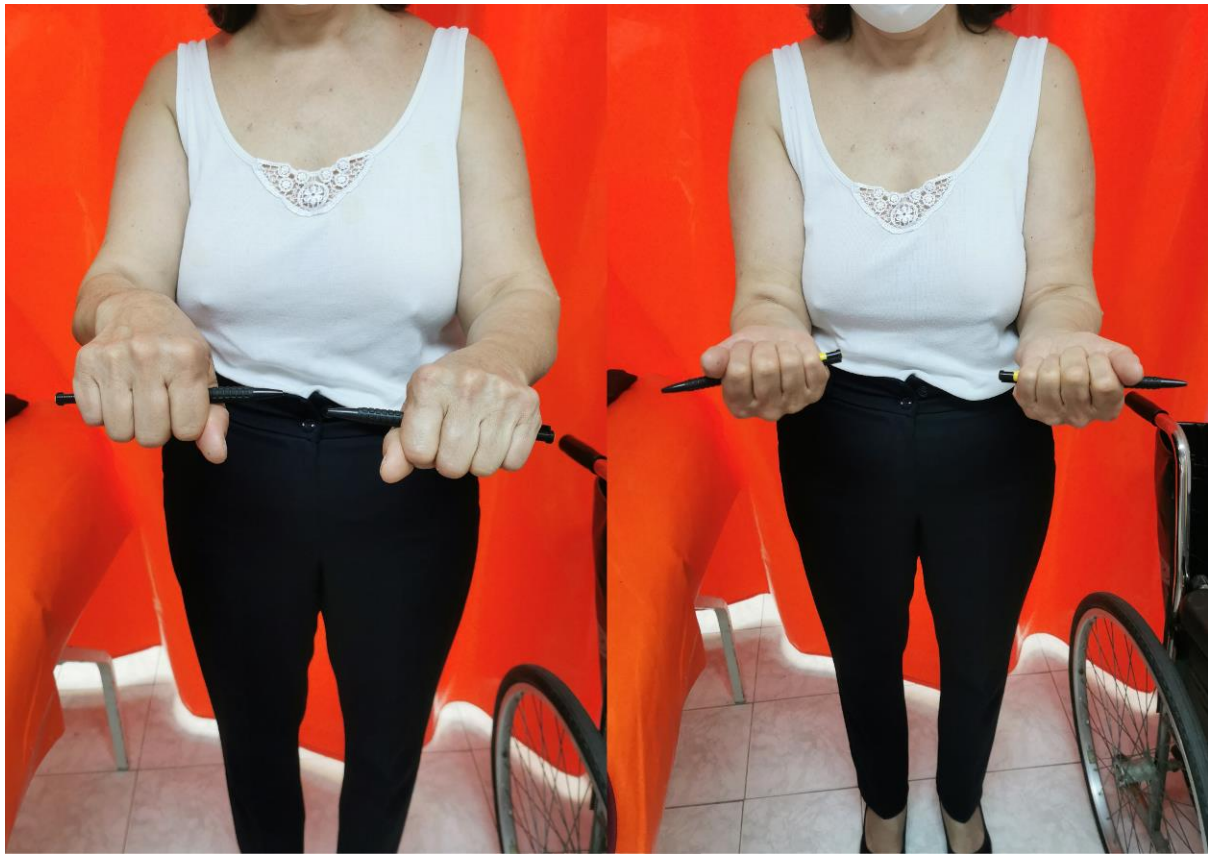


Figure 7. Clinical presentation and range of motion, 12 weeks after injury – pronation and supination [source: Photographic archive, Bežanijska Kosa University Hospital Medical Center]



Figure 8. Clinical presentation and range of motion, 12 weeks after injury – extension and flexion of the elbow joint, internal rotation of the shoulder [source: Photographic Archive, Bežanijska Kosa University Hospital Medical Center]

Paper accepted