

## Bilateral infraclavicular block administration in a case of coexisting rheumatoid arthritis and pemphigus vulgaris

Bilateral infraclavicular block administration

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### Abstract

In this case report, we aimed to review the characteristics of anesthesia management in a patient with the diagnoses of rheumatoid arthritis and pemphigus vulgaris who was scheduled for bilateral elbow surgery.

A 55-year-old patient followed up with the diagnoses of rheumatoid arthritis and pemphigus vulgaris who was scheduled to undergo bilateral proximal carpectomy and external fixation of the wrist. The patient was detailedly informed about the procedure to be performed and his written consent was obtained. Bilateral infraclavicular block was on the patient. No complications such as vascular puncture, pneumothorax, and LA toxicity developed.

We are of the opinion that patients with the diagnoses of rheumatoid arthritis and pemphigus vulgaris should be evaluated well, and regional techniques should be preferred in appropriate surgeries.

### Keywords

Infraclavicular block; Rheumatoid arthritis; Pemphigus vulgaris

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## Introduction

Rheumatoid arthritis (RA) is a progressive chronic inflammatory disease that causes damage and loss of function in joints. Although peripheral joint involvement is at the forefront in RA, atlantooccipital and sacroiliac joint involvement may also occur. The risk of difficult intubation is increased in RA patients due to restricted head and neck movements and mouth opening. Moreover, the presence of spine involvement may cause difficulty in central neuraxial block administrations [1,2].

Pemphigus vulgaris is an autoimmune bullous disease of the skin and/or mucous membranes characterized by loose bullae and erosions [3]. It is a disease that may arise all over the world and its incidence ranges from 0.5/100,000 to 3.2/1,000,000. Steroid and immunosuppressive therapy are used in the treatment of pemphigus vulgaris. New lesions may form even with slight friction and pressure. Anesthesia technique to be used in these patients is of importance [3,4].

In this case report, we aimed to review the characteristics of anesthesia management in a patient with the diagnoses of rheumatoid arthritis and pemphigus vulgaris who was scheduled for bilateral proximal carpectomy and external fixation of the wrist.

## Case Report

We evaluated a 55-year-old patient followed up with the diagnoses of rheumatoid arthritis and pemphigus vulgaris who was scheduled to undergo bilateral proximal carpectomy and external fixation of the wrist (Figure 1). It was found out that the patient, who was previously diagnosed with coronary artery disease and rheumatoid arthritis and who was on 16 mg prednol, had increasing wounds on the arms and legs for the last month, as well as sores in the oral mucosa and hemorrhagic crusts on the lips for about 15 days. It was noted that the patient who was evaluated by the dermatology clinic of our hospital was diagnosed with pemphigus vulgaris. It was learned that the methotrexate treatment of the patient, who also used methotrexate and plaquenil previously due to rheumatoid arthritis, was discontinued 3 weeks ago, while his prednol and plaquenil treatment was continued. The laboratory evaluation before anesthesia revealed mild hypoproteinemia (total protein: 5.6 albumin 2.7), mild hyponatremia (Na: 132) and hypopotassemia (K: 2.77) in the biochemistry. CRP was elevated (337) and hemoglobin count was low (8.3) in the hemogram. It was observed that his mouth opening and neck movements were limited. There were also lesions on the pharyngeal walls. Mallampati could not be evaluated since the mouth opening was limited. The patient was detailedly informed about the procedure to be performed and his written consent was obtained.

It was planned to perform bilateral infraclavicular block on the patient. No premedication was given. When the patient was transferred to the operating room, he was monitored with ECG, pulse oximeter, and non-invasive blood pressure. Blood pressure measurement frequency was set to 5 min. Peripheral vascular access was established using a 22G branule through the forearm. The patient was given 3 lt/min oxygen with an oxygen mask. The head of the patient was turned to the opposite side of the block site. The injection point was determined after disinfection with povidone-iodine. Ten millilitres of 0.5%

levobupivacaine, 10 ml of 2% prilocaine and 5 ml of physiological saline solution were prepared for use in the patient. A 22 G peripheral nerve block needle was used. Immediately after the axillary artery and cords were visualized, the stimulation needle was directed toward the posterior aspect of the axillary artery so as to be in the same plane with the US probe (in-plane technique) (Figure 2). The drug mixture was injected at a total dose of 25 ml with intermittent aspiration. During the administration of local anesthetic, the distribution around the cord and axillary artery was observed by ultrasound. No complication such as vascular puncture, pneumothorax and LA toxicity developed. The same procedure was repeated on the other side. Again, no complication developed. The peripheral vascular access to the patient was then removed since he would be operated from both arms, and a central vascular access was established by inserting a subclavian CVP catheter from the right side. Surgical anesthesia occurred in 15 minutes. No analgesic was required during the operative time of 150 min.



**Figure 1.** Patient diagnosed with rheumatoid arthritis and pemphigus vulgaris who was scheduled to undergo bilateral proximal carpectomy and external fixation of the wrist.



**Figure 2.** Performance of bilateral infraclavicular block on the patient with the USG probe (in-plane technique)

## Discussion

In patients with progressive chronic inflammatory diseases, such as RA, it is important to choose the technique that will minimize the risk of complications and improve patient comfort when planning anesthesia. Furthermore, in these patients, preparations for the difficult airway should be made just in case. Since the involvement of the cervical spine, especially the atlantooccipital joint, causes limited head and neck movements and the involvement of the temporomandibular joint leads to reduced mouth opening, the risk of encountering difficult airway is increased in the general anesthesia plan [2]. In our patient, neck movements were also significantly limited and mouth opening was reduced. In addition, central neuraxial blocks may be difficult or even impossible in patients with rheumatoid arthritis due to ossification of the interspinous ligaments and narrowing of the intervertebral space [5].

Pemphigus vulgaris is a chronic autoimmune disease characterized by vesicles and bullae involving the skin and mucosae. It usually starts in the oral mucosa and spreads to the skin and other mucosal areas. Mucosal involvement is present in 50-70% of the patients [6]. Early diagnosis and treatment are of importance in terms of disease progression. The initial clinical diagnosis should be confirmed by histopathological examination and immunofluorescence technique. Corticosteroids are the mainstay of treatment for pemphigus. The first line in the treatment of pemphigus is to induce remission in a short time. Early systemic treatment is necessary to control the disease and to ensure long-term remission. Since there may be oral, pharyngeal, and laryngeal lesions in patients with pemphigus vulgaris, intubation may result in new lesion formation and bleeding from the lesion. Therefore, in appropriate surgeries, regional techniques in which airway manipulation will not be performed should be preferred. Since intraoral and pharyngeal lesions were detected in our case, regional techniques were preferred. Intraoral lesions may lead to malnutrition or fluid electrolyte disturbances may be observed due to large lesions in the skin [7,8]. Our patient also had malnutrition-induced fluid electrolyte disturbances. In addition, the patient had a cachectic appearance.

In conclusion, we are of the opinion that patients with the diagnoses of rheumatoid arthritis and pemphigus vulgaris should be evaluated well in terms of concomitant diseases, the drugs used should be questioned, necessary preoperative laboratory tests should be evaluated, and regional techniques should be preferred in appropriate surgeries.

### Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

### Animal and human rights statement

All procedures performed in this study 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. No animal or human studies were carried out by the authors for this article.

### Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

## References

1. Azevedo VF, Buiar PG. Concurrent rheumatoid arthritis and ankylosing spondylitis in one patient: the importance of new classification criteria. *Rev Bras Reumatol.* 2013; 53:111-9.
2. Halla JT, Fallahi S. Cervical discovertebral destruction, subaxial subluxation, and myelopathy in a patient with rheumatoid arthritis. *Arthritis Rheum.* 1981; 24:944-7.
3. Smith GB, Shribman AJ. Anaesthesia and severe skin disease. *Anaesthesia.* 1984;39(5):443-55.
4. Mahalingam TG, Kathirvel S, Sodhi P. Anaesthetic management of a patient with pemphigus vulgaris for emergency laparotomy. *Anaesthesia.* 2000;55(2):160-2.
5. Gil S, Jamart V, Borrás R, Miranda A. Airway management in a man with ankylosing spondylitis. *Rev Esp Anestesiol Reanim.* 2007;54: 128-31.
6. Şendur ÖF, Turan Y. Romatoid artritte omurga tutulumu. *Türk Fiz Tıp Rehab Derg.* 2008;54: 15-9.
7. Savin JA. Some factors affecting prognosis in pemphigus vulgaris and pemphigoid. *Br J Dermatol.* 1981;104(4):415-20.
8. Dave ST, Chandrashekhar V, Kamath SK, Dewoolkar LV. Anaesthetic management for paraneoplastic pemphigus. *Ind J Anaesth.* 2007;51(6):525-7.

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