



When a Patient's Pain in the Elbow Turns into a Physician's Pain in the Neck

Youngbok Kim 

Department of Orthopedic Surgery, Inje University Haeundae Paik Hospital, Busan, Korea

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Corresponding author

Youngbok Kim
 Department of Orthopedic Surgery,
 Inje University Haeundae Paik Hospital,
 875 Haeundaero, Haeundaegu, Busan
 48108, Korea
 Tel: 82-51-797-2190
 Fax: 82-51-797-0991
 E-mail: neomed95@naver.com

Elbow pain-related diseases constitute a significant portion of musculoskeletal conditions, and their prevalence is steadily increasing from an epidemiological perspective [1]. In Korea, due to the rapid transition through industrialization and improved socioeconomic status, the patient and disease spectrum is broadening. This expansion encompasses a blend of occupational injuries, sports and leisure-related injuries, and degenerative diseases associated with an aging society [2]. Naturally, alongside efforts to clinically comprehend and manage these diseases, it is crucial to address and mitigate the escalating social and economic costs they incur [3]. In this issue of the journal, there is a collection of papers examining the epidemiology of common painful elbow conditions and providing a series of analyses from conservative treatment to surgical intervention and subsequent rehabilitation. These papers are anticipated to be a valuable resource for primary care physicians.

Indeed, our understanding of the anatomy and biomechanics of the elbow joint, as well as treatment modalities for the specific diseases that affect it, has lagged behind those of other major joints. While we are grateful that significant strides have been made in comprehending and treating elbow diseases in recent decades, we must acknowledge that there are still many challenges to overcome in comparison to other musculoskeletal fields.

The leading article in this collection offers the most recent and comprehensive analysis of the epidemiology of elbow joint diseases in Korea, utilizing insurance codes to provide a snapshot of trends within the domestic patient population. Korea's insurance code classification system, which has been computerized in a more detailed and consistent manner than in any other country and has been compiled over several decades, is particularly valuable for epidemiological analysis [4,5]. This is because the Korean insurance system requires doctors to specify diagnoses and treatments, as well as because the domestic population cohort is sufficiently large for nuanced research. However, in a busy clinical setting, data bias may occur as treatment often begins with a formal diagnosis equivalent to an impression, and a diagnosis favorable for billing is presented in line with changing billing regulations.

Moreover, as the aim of this collection of papers is to enhance the consistency of multidisciplinary primary physicians' understanding and treatment of elbow diseases, it is also necessary to consider differences in multidisciplinary diagnoses for the same disease. It is evident that epidemiological changes, including an increase in elbow patients and a diversity of diseases, are reflected in our clinical practice. The domestic socioeconomic situation, where patients are classified as a patient group as they actively seek treatment for previously overlooked symptoms, and

the unique situation in Korea, where doctors from various departments compete to provide musculoskeletal treatment, must also be taken into account [6].

When diagnosing elbow diseases, the location of pain and specific triggering situations are key distinguishing factors. However, in conditions like arthritis or calcific tendinitis, the pain location is not specific. Similarly, in cases of local nerve entrapment or proximal nerve compression disease, the pain location and lesion do not align. There is a tendency to diagnose elbow pain based solely on its location, which can introduce bias. For instance, oversimplifications such as "pain on the medial side must be medial epicondylitis and pain on the lateral side must be lateral epicondylitis" can lead to overlooking a more detailed approach to pain. In patients who report tenderness and exertional pain near the medial epicondyle, there are numerous possibilities, including calcific tendinitis, adventitious bursitis due to ulnar nerve dislocation, nerve entrapment such as anterior interosseous nerve syndrome, and medial collateral ligament damage or microfractures in sports injuries [7]. Contrary to a paper that described cubital tunnel syndrome as a cause of medial elbow pain, its primary symptom is not medial pain, but hand numbness and weakness. Therefore, a more comprehensive and insightful approach is necessary, bearing in mind that cases unrelated to the pain location are also possible.

Excluding tumors, infections, major fractures, and ligament injuries with significant joint instability, the majority of painful conditions around the elbow yield satisfactory results with conservative treatment in 80%–90% of cases [8]. Therefore, it is reasonable to manage most painful elbow conditions sufficiently with conservative measures, by reassuring and persuading the patient. Unlike weight-bearing joints, the correlation between radiographic findings and symptoms in elbow arthritis is not proportional, eliminating the need for early surgical intervention. Currently, in Korea, various biological agents based on regenerative medicine are available as conservative treatments for tendon enthesopathy [9–11]. However, it is important to note that there are skeptical and critical views regarding their efficacy and effectiveness. Local steroid injections have traditionally been used as a clinical tool for conservative treatment due to their rapid short-term effects [12,13]. However, repeated steroid injections into the tendon can increase the scale of any subsequent surgery and lead to unfavorable postoperative results [14,15].

If conservative treatment proves ineffective over a certain period, a surgical consultation may be advisable. In cases of nerve entrapment syndromes, such as cubital tunnel syndrome, decompression surgery could be beneficial before permanent anatomical and functional damage occurs [16]. Even in the case of calcific tendinitis, a benign condition, if pain persists indefinitely without resolution, early surgical removal of the calcific deposit might be beneficial [15]. Elbow surgery methodologies can be broadly categorized into arthroscopic surgery and open surgery. As neither method is definitively superior, the choice can be made based on the surgeon's preference, considering the condition and stage of the lesion. For end-stage joint disease with severe symptoms, replacement arthroplasty may be an option [17]. While elbow replacement surgery is currently yielding acceptable clinical results due to advancements in implant design and materials, it still presents more challenges compared to other joint replacement surgeries. Therefore, it should be considered as a last resort [18].

The elbow joint, which provides spatial configuration and support for hand function, must simultaneously perform the conflicting functions of stability and mobility. Biomechanically, the zone where both functions coexist is small. Consequently, post-surgery immobilization can easily lead to joint stiffness, while premature mobilization may result in instability before the major structures have fully healed [19]. Thus, the primary challenge in postoperative rehabilitation is to

restore the joint's range of motion while minimizing the risk of instability. Modern postoperative rehabilitation protocols for the elbow have been developed to be highly effective, taking into account the biomechanical characteristics of the elbow joint [20]. It is anticipated that these papers, which encapsulate the overarching principles and specific rehabilitation methods for each individual surgery, will serve as a valuable clinical guideline for physicians.

This compilation of papers, encompassing a series of domestic epidemiological studies on elbow diseases, distinguishing factors for elbow pain, conservative and surgical treatments, and postoperative rehabilitation, is noteworthy as it provides a comprehensive overview of the understanding and treatment of elbow diseases. We trust that the readers will appreciate that any perceived weaknesses or limitations are due to space constraints that prevent the publication of extensive content, with the anticipation that future papers will further elaborate on these topics.

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Conflict of Interest

No potential conflict of interest relevant to this article was reported.

ORCID iD

Youngbok Kim: <https://orcid.org/0000-0002-7966-1092>

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