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Physiotherapy Management of Lateral Epicondylitis: A Case Report

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Abstract

Background: Lateral epicondylitis is a musculoskeletal condition characterized by lateral elbow pain and functional limitation. Evidence regarding optimal physiotherapy management remains inconsistent.

Objective: To describe physiotherapy management and observed changes in pain, wrist muscle strength, range of motion, and functional status in a patient with lateral epicondylitis.

Methods: This single case report (n=1) followed the CARE guidelines and involved a 42-year-old woman with left lateral epicondylitis of two weeks' duration. The patient received four physiotherapy sessions over two weeks, twice weekly, comprising transcutaneous electrical nerve stimulation, infrared radiation, myofascial release, stretching, mobilization with movement, active range of motion exercise, eccentric wrist extension and flexion using a dumbbell, and a home exercise program. Outcomes were assessed at baseline (T1) and after the fourth session (T4) using the Visual Analog Scale, manual muscle testing, goniometry, and the Patient-Rated Tennis Elbow Evaluation. Data were analyzed descriptively.

Results: Pain during movement decreased from 4/10 to 2/10, pressure pain from 5/10 to 2/10, and resting pain from 2/10 to 1/10. Wrist flexion increased from 66° to 72° and extension from 60° to 65°. Flexor and extensor muscle strength increased from grade 4 to grade 5. The Patient-Rated Tennis Elbow Evaluation score decreased from 50 to 20. No outcome measurements were available for T2 and T3.

Conclusion: Clinical changes were observed after four sessions, including reduced pain, increased wrist range of motion and muscle strength, and improved functional status. The contribution of individual intervention components cannot be determined from this single case.

Keywords
Tennis Elbow; Physical Therapy Modalities; Muscle Strength; Range of Motion, Articular; Pain Measurement; Exercise Therapy

Introduction

Lateral epicondylitis, commonly referred to as tennis elbow, is a musculoskeletal condition characterized by pain and functional limitation around the lateral epicondyle of the elbow.[1,2] Elbow disorders are relatively common and may contribute substantially to pain and functional impairment in the general population.[3] Lateral epicondylitis is commonly associated with repetitive loading of the wrist extensor tendons, particularly the extensor carpi radialis brevis (ECRB), which may result in tendon overload and degenerative changes at its origin.[4] The condition has been reported to affect approximately 1% to 3% of the general population, with a higher occurrence among individuals older than 40 years and greater involvement of the dominant upper limb.[1,4] These clinical problems may have broader consequences through activity limitation, reduced productivity, and work absenteeism.[5]

Repetitive activities involving forceful upper-limb movements are commonly associated with lateral epicondylitis. The condition may occur in athletes, including tennis and other racket-sport players, as well as in manual workers who are repeatedly exposed to mechanical loading of the upper limb.[4] Approximately 10.5% of manual workers have been reported to experience lateral elbow pain, whereas 2.4% have a confirmed diagnosis of lateral epicondylitis.[6] The risk may be greater among individuals performing physically demanding manual tasks or repetitive movements because of sustained mechanical loading of the lateral elbow structures.[7] Symptoms commonly become more pronounced during activities involving elbow flexion and extension, forearm pronation and supination, gripping, or resisted wrist extension.[1] Consequently, lateral epicondylitis may interfere with daily activities that require repetitive or forceful use of the wrist and forearm muscles.

Physiotherapy is commonly incorporated into the conservative management of lateral epicondylitis, with interventions directed toward pain management, restoration of mobility, improvement of muscle capacity, and recovery of upper-limb function.[2] In clinical practice, treatment may involve a combination of electrotherapy, manual therapy, stretching, and therapeutic exercise.[2] Transcutaneous electrical nerve stimulation (TENS) is used as a non-invasive modality for pain management, although evidence specifically concerning its use in lateral epicondylitis remains limited and inconsistent.[8] Infrared radiation (IRR) may be applied for its proposed thermal effects, including local circulatory and muscle-relaxation effects.[9] Manual techniques such as myofascial release and mobilization with movement (MWM), together with stretching and active range of motion (ROM) exercise, may be incorporated to address soft-tissue mobility and movement-related symptoms.[4,10] Therapeutic exercise, particularly progressive resistance and eccentric exercise, is also commonly used to address impaired muscle capacity and functional limitations associated with lateral elbow tendinopathy.[11,12]

Despite the widespread use of these interventions, evidence regarding the optimal non-invasive physiotherapy approach for lateral epicondylitis remains inconsistent. A systematic review and meta-analysis by Henschke and Oliveira that included 47 randomized controlled trials reported low to very low certainty of evidence for many non-invasive interventions, with variable effects on pain, maximum grip strength, disability, and quality of life.[4] These findings indicate that treatment selection should consider the

patient's clinical presentation and functional needs rather than assuming that a single intervention is superior across patients. Furthermore, when several interventions are applied simultaneously in clinical practice, observed changes cannot readily be attributed to any individual treatment component.

The present case involved a physically active 42-year-old woman with a two-week history of left lateral elbow symptoms associated with repetitive upper-limb activity during padel. Her symptoms affected daily activities, including sweeping and gripping objects, and resulted in temporary reduction of her sporting activity. Clinical examination identified localized lateral epicondylar tenderness and pain during resisted wrist extension and gripping, with positive Cozen's and Maudsley's tests. These findings, together with the clinical history and absence of features supporting the considered differential diagnoses, were consistent with lateral epicondylitis.

Therefore, this case report aimed to describe the physiotherapy management of a patient with lateral epicondylitis and the clinical changes observed in pain intensity, wrist ROM, muscle strength, and functional status following a four-session multimodal physiotherapy program. The report does not aim to establish the efficacy of individual treatment components or a causal relationship between the intervention and the observed changes.

Methods

This case report was prepared in accordance with the CARE guidelines and describes the clinical management of a single patient with lateral epicondylitis.[13] The case was managed in a physiotherapy clinic in Makassar as part of routine clinical practice. Before treatment, the patient received an explanation regarding the clinical assessment, physiotherapy procedures, treatment process, and use of anonymized clinical information for publication. Written informed consent was obtained from the patient for participation and publication of anonymized clinical information.

The patient was a 42-year-old woman who presented with left lateral elbow pain and functional limitation. She had a relatively high level of physical activity and regularly participated in recreational activities involving repetitive use of the upper extremity. Her main complaint was pain during gripping, household activities, and exercise. The symptoms had been present for approximately two weeks before the initial examination, occurred intermittently after activity, and could persist until the following day. The patient temporarily reduced or stopped activities that provoked the symptoms. She reported no relevant comorbidities, including diabetes mellitus or hypertension, no previous elbow disorder, and no previous physiotherapy or medical treatment for the current condition.

Clinical information was obtained through autoanamnesis and alloanamnesis, followed by a musculoskeletal physical examination. The assessment included inspection, palpation, pain intensity, active and passive range of motion (ROM), manual muscle testing (MMT), functional assessment, and specific provocative tests. Palpation identified localized tenderness over the left lateral epicondyle. Symptoms were reproduced during active wrist extension and gripping. Pain intensity was assessed using the Visual Analog Scale (VAS), ranging from 0, indicating no pain, to 10, indicating the most severe intolerable pain.[14] Pain was assessed during rest, movement, and palpation.

Active wrist ROM was measured using a universal goniometer. The patient was seated with the forearm supported in pronation and the wrist in a neutral position. The goniometer axis was positioned at the lateral aspect of the wrist, with the stationary arm aligned with the longitudinal axis of the ulna and the moving arm aligned with the fifth metacarpal. The patient actively performed wrist flexion and extension through the available range, and the measurements were recorded in degrees. The same measurement procedure was used at the available assessment points.

Wrist muscle strength was assessed using MMT on a 0 to 5 scale. For wrist flexion, the patient was seated with the forearm supinated and the wrist in a neutral position. The therapist stabilized the forearm while applying resistance to the palmar surface of the hand toward wrist extension as the patient performed active wrist flexion. For wrist extension, the patient was seated with the forearm pronated and the wrist in a neutral position. The therapist stabilized the forearm while applying resistance to the dorsal surface of the hand toward wrist flexion as the patient performed active wrist extension. The resulting muscle grades were recorded at the available assessment points.

Functional status was assessed using the revised English version of the Patient-Rated Tennis Elbow Evaluation (PRTEE). The instrument consists of 15 items, including five pain items and 10 function items. Each item is scored from 0 to 10. The pain subscale ranges from 0 to 50, while the function subscale is calculated by dividing the sum of the 10 function items by two, resulting in a range of 0 to 50. The total PRTEE score ranges from 0 to 100, with higher scores indicating greater pain and functional limitation. The questionnaire was completed by the patient at the available assessment points.

The clinical diagnosis of lateral epicondylitis was based on the patient's history, localized lateral epicondylar tenderness, activity-related symptoms, and provocative test findings.[2] Cozen's test was performed with the patient seated, the elbow extended, the forearm maximally pronated, the wrist positioned in radial deviation, and the hand clenched. The examiner stabilized the elbow and palpated the lateral epicondyle while applying resistance to wrist extension. The test was considered positive when lateral epicondylar pain was reproduced. Maudsley's test was performed with the examiner stabilizing the humerus and palpating the lateral epicondyle while the patient performed resisted extension of the third finger at the distal aspect of the proximal interphalangeal joint. Reproduction of lateral epicondylar pain was interpreted as a positive finding. Both tests produced pain at the lateral epicondyle.

The differential diagnoses considered were carpal tunnel syndrome, cervical radiculopathy, and elbow osteoarthritis. Carpal tunnel syndrome was considered unlikely because there was no paresthesia, numbness, or sensory disturbance in the median nerve distribution, and Phalen's and Tinel's tests were negative. Cervical radiculopathy was considered unlikely because there was no radiating cervical pain, sensory or motor deficit, or cervical ROM limitation, and Spurling's test was negative. Elbow osteoarthritis was considered unlikely because there was no elbow stiffness, limitation of elbow ROM, or characteristic elbow joint pain or movement restriction. Based on the overall clinical findings, lateral epicondylitis was considered the most appropriate working diagnosis.

The physiotherapy program consisted of four sessions over two weeks, with two sessions per week. Each session combined electrotherapy, manual therapy, and therapeutic exercise. Transcutaneous electrical nerve stimulation (TENS) was administered with the patient in a comfortable position and the forearm relaxed. Electrodes were placed around the painful elbow region without producing muscle contraction. The documented parameters were a frequency of 100 Hz and a treatment duration of 15 minutes, with intensity adjusted according to patient tolerance. Infrared radiation (IRR) was applied with the patient seated and the forearm supported. A luminous IRR unit was positioned approximately 30 cm from the elbow and applied at low intensity for 10 minutes.

Myofascial release was performed with the patient comfortably positioned and the forearm relaxed. Muscle release and friction techniques were applied to the extensor carpi radialis brevis region, wrist extensor muscle group, and surrounding forearm tissues for 10 minutes using moderate pressure according to tolerance. Stretching was then applied to the wrist flexor and extensor muscle groups. With the elbow extended and forearm pronated, the wrist was slowly moved into flexion to stretch the wrist extensors.

The wrist was moved toward extension to stretch the wrist flexors. Each position was maintained for approximately 15 to 30 seconds for two sets of three repetitions. MWM was applied to the elbow using a lateral glide while the patient performed an active movement. The documented dosage was two sets of three repetitions.

Active ROM exercise was performed through a comfortable range to maintain or improve elbow and wrist mobility. The patient performed controlled active flexion and extension for three sets of eight repetitions, with 30 to 60 seconds of rest between sets. Eccentric wrist extension and flexion were performed using a 2 kg dumbbell. For wrist extension, the forearm was supported with the wrist positioned at the edge of a table and the palm facing downward. The wrist was raised into extension and then slowly lowered eccentrically using the affected hand. For wrist flexion, the palm faced upward, the wrist was assisted into flexion, and the patient slowly lowered the wrist toward extension. The exercise was performed for three sets of eight repetitions, with 30 to 60 seconds of rest between sets.

The home exercise program consisted of self-stretching of the wrist flexor and extensor muscles and eccentric wrist extension and flexion using a light load. The patient was instructed to perform the exercises daily. However, the exact dosage of the home exercise program, including load, repetitions, sets, and duration, was not documented. Patient adherence and the method used to monitor adherence were also not documented. These missing data were retained as limitations of the clinical documentation and were not reconstructed retrospectively.

To provide a structured overview of the patient's clinical course, Table 1 summarizes the chronology from symptom onset and initial assessment through the intervention period and final assessment. The timeline also distinguishes the documented assessment points from sessions for which outcome measurements were unavailable. Outcome measurements were available at baseline (T1) and after the fourth session (T4), whereas no outcome measurements were documented at T2 or T3. Therefore, the temporal trajectory of outcomes across individual treatment sessions could not be established.

Table 1. Clinical timeline of the patient

Stage	Time	Description
Initial condition	Approximately 2 weeks before initial assessment	The patient experienced intermittent left lateral elbow pain associated with physical activity and repetitive upper-limb use. Symptoms could persist until the following day and resulted in temporary reduction or cessation of activities that provoked pain. No previous elbow disorder or physiotherapy treatment was reported.
Initial assessment	Session 1 (T1)	Assessment included pain intensity using VAS, wrist muscle strength using MMT, active wrist ROM, functional status using PRTEE, and provocative testing. Cozen's and Maudsley's tests reproduced pain at the lateral epicondyle.
Intervention phase	Sessions 1 to 4, over 2 weeks	Four physiotherapy sessions were completed at a frequency of two sessions per week. The multimodal program consisted of TENS, IRR, myofascial release, stretching, MWM, active ROM exercise, eccentric wrist extension and flexion using a dumbbell, and a home exercise program.
Intermediate assessment	Sessions 2 and 3 (T2 and T3)	No outcome measurements were available in the case documentation for T2 or T3. Therefore, changes in pain, ROM, muscle strength, and PRTEE between individual treatment sessions could not be assessed.
Final assessment	Session 4 (T4)	The available post-treatment assessment included VAS, wrist ROM, MMT, and PRTEE. These measurements were compared descriptively with the baseline values recorded at T1.

VAS, Visual Analog Scale; MMT, manual muscle testing; ROM, range of motion; PRTEE, Patient-Rated Tennis Elbow Evaluation; TENS, transcutaneous electrical nerve stimulation; IRR, infrared radiation; MWM, mobilization with movement.

Clinical data were analyzed descriptively by comparing measurements available before treatment (T1) with those obtained after the fourth session (T4). Absolute changes and percentage changes were calculated descriptively where applicable. No inferential statistical analysis was performed because this was a single case. Because outcome measurements were unavailable at T2 and T3, changes across individual sessions could not be analyzed. The PRTEE change was reported descriptively, without using a specific minimal clinically important difference threshold to establish treatment efficacy because the applicability of available MCID evidence to the instrument version and population used in this case requires verification.

The case was managed as part of routine physiotherapy practice without additional experimental procedures. The original case documentation did not contain a formally documented ethical approval, waiver, or institutional exemption number. Therefore, no approval or exemption number is reported to avoid introducing unsupported information. Written informed consent was obtained from the patient for participation and publication of anonymized clinical information. Identifying information was removed to protect patient privacy and confidentiality. A formal patient perspective was not collected or documented.

Results

The patient completed four physiotherapy sessions over a two-week period. Outcome measurements available in the case documentation were obtained at baseline (T1) and after the fourth session (T4). Although the treatment program consisted of four sessions, outcome measurements for T2 and T3 were not documented; therefore, changes occurring between individual sessions could not be evaluated. The available outcomes comprised pain intensity, wrist range of motion (ROM), wrist muscle strength, and functional status. No adverse or unanticipated events were documented during the treatment period.

Pain intensity was assessed under three conditions: movement, palpation, and rest. The recorded values at T1 and T4 are presented in Table 2. Lower VAS scores were observed across all three conditions at T4 compared with baseline.

Table 2. Pain intensity at baseline and after the fourth physiotherapy session

Parameter	T1	T4	Absolute change	Percentage change
Movement pain, VAS	4/10	2/10	−2	50%
Pressure pain, VAS	5/10	2/10	−3	60%
Resting pain, VAS	2/10	1/10	−1	50%

VAS, Visual Analog Scale.

Movement pain decreased from 4/10 at T1 to 2/10 at T4, representing an absolute decrease of 2 points or 50%. Pressure pain decreased from 5/10 to 2/10, corresponding to a decrease of 3 points or 60%. Resting pain decreased from 2/10 to 1/10, corresponding to a decrease of 1 point or 50%. Changes in active wrist ROM are presented in Table 3. Both recorded wrist movements showed higher ROM values at T4 than at baseline.

Table 3. Active wrist range of motion at baseline and after the fourth physiotherapy session

Parameter	T1	T4	Absolute change	Percentage change
Wrist flexion	66°	72°	+6°	9.1%
Wrist extension	60°	65°	+5°	8.3%

Wrist flexion increased from 66° at T1 to 72° at T4, representing an increase of 6° or 9.1%. Wrist extension increased from 60° to 65°, representing an increase of 5° or 8.3%. Because no measurements were available at T2 and T3, the pattern or timing of these changes across the four sessions could not be determined. Changes in wrist muscle strength are summarized in Table 4. Both wrist flexor and extensor MMT grades were higher at T4 than at T1.

Table 4. Wrist muscle strength at baseline and after the fourth physiotherapy session

Parameter	T1	T4	Absolute change	Percentage change*
Wrist flexors, MMT	4	5	+1	25%
Wrist extensors, MMT	4	5	+1	25%

Percentage change is a descriptive numerical calculation based on the MMT grade and does not represent a proportional physiological increase in muscle strength. MMT, manual muscle testing.

Wrist flexor strength increased from grade 4 to grade 5, while wrist extensor strength also increased from grade 4 to grade 5. Each muscle group showed an increase of one MMT grade. Because MMT is an ordinal clinical grading scale, the numerical percentage should not be interpreted as a proportional increase in physiological muscle strength. Functional status was assessed using the total PRTEE score. The available values at T1 and T4 are presented in Table 5. The lower score at T4 indicates a lower level of patient-reported pain and functional limitation than at baseline.

Table 5. Patient-Rated Tennis Elbow Evaluation score at baseline and after the fourth physiotherapy session

Parameter	T1	T4	Absolute change	Percentage change
PRTEE total score	50	20	−30	60%

PRTEE, Patient-Rated Tennis Elbow Evaluation.

The PRTEE total score decreased from 50 at T1 to 20 at T4, representing an absolute decrease of 30 points or 60%. No separate PRTEE measurements were available for T2 and T3. Overall, the available T1 and T4 assessments showed lower recorded pain scores, increased wrist ROM, higher MMT grades for wrist flexors and extensors, and a lower PRTEE score at T4. These findings describe the clinical changes observed in this single patient after completion of the four-session treatment period. Because all interventions were administered as a multimodal program and intermediate outcome measurements were unavailable, the observed changes cannot be attributed to any individual intervention component or interpreted as evidence of treatment efficacy.

Discussion

This case report describes the clinical changes observed in a 42-year-old woman with lateral epicondylitis following four physiotherapy sessions over two weeks. The available assessments showed lower pain scores, increased wrist range of motion (ROM), higher manual muscle testing (MMT) grades, and a lower Patient-Rated Tennis Elbow Evaluation (PRTEE) score at T4 compared with baseline. Because the patient received several physiotherapy interventions concurrently, these changes cannot be attributed to any individual treatment component. Furthermore, the absence of outcome measurements at T2 and T3 limits interpretation of the temporal pattern of change during the treatment period.

The clinical presentation in this case was consistent with lateral epicondylitis, characterized by localized lateral epicondylar tenderness and pain associated with gripping and resisted wrist extension. The patient's regular participation in padel involved repetitive upper-limb loading and provided a relevant clinical context for the symptoms. Lateral epicondylitis is commonly associated with repetitive loading of the wrist extensor tendons, particularly the extensor carpi radialis brevis (ECRB), although the underlying condition involves more complex tendon pathology than an isolated acute inflammatory process.[15,16] The positive Cozen's and Maudsley's tests, together with the clinical history and physical examination findings, supported the working diagnosis used in this case. The differential diagnostic assessment also did not identify findings suggestive of carpal tunnel syndrome, cervical radiculopathy, or elbow osteoarthritis.

Pain intensity decreased across all three recorded conditions after the treatment period. Movement pain decreased from 4/10 to 2/10, pressure pain from 5/10 to 2/10, and resting pain from 2/10 to 1/10. These changes were observed following a program that combined electrotherapy, manual therapy, and therapeutic exercise. TENS was included as one component of the multimodal program and is used clinically for pain modulation in musculoskeletal conditions. However, evidence specifically concerning TENS for lateral epicondylitis remains limited and inconsistent.[8] A systematic review and meta-analysis examining TENS and extracorporeal shockwave therapy reported variable evidence regarding pain outcomes, indicating that the findings of this single case should not be interpreted as evidence of a specific effect of TENS.[8] The observed reduction in pain may therefore be described only as a change occurring during the treatment period, without determining the contribution of TENS or other concurrent interventions.

IRR was also included in the treatment program. IRR has been described as a modality that may produce thermal effects and has been used in the management of musculoskeletal pain.[9] A previous systematic review reported reductions in pain measured by VAS following infrared radiation across various musculoskeletal conditions, although treatment effects may vary according to the clinical condition and treatment protocol.[17] In the present case, pain reduction occurred during a multimodal treatment program, and the specific contribution of IRR cannot be isolated from the observed outcome. Therefore, the findings provide a description of the patient's clinical course rather than evidence for the effectiveness of IRR in lateral epicondylitis.

The recorded wrist ROM increased during the observation period, with flexion increasing from 66° to 72° and extension from 60° to 65°. Myofascial release and stretching were included to address soft-tissue mobility, while MWM and active ROM exercise were incorporated to facilitate movement. Previous literature has reported clinical improvements in pain and function following MWM in patients with lateral epicondylitis, particularly when combined with exercise.[10] Myofascial techniques and stretching have also been used as components of rehabilitation programs addressing soft-tissue mobility and functional limitations.[18] Nevertheless, because these interventions were administered together with other treatment components, the present case cannot determine whether any specific technique was responsible for the observed ROM changes. In addition, the lack of T2 and T3 measurements prevents determination of when the ROM changes occurred.

Wrist flexor and extensor MMT grades increased from 4 to 5 at T4. Therapeutic exercise, including eccentric loading, was included in the treatment program because progressive resistance exercise is commonly used in the rehabilitation of lateral elbow tendinopathy. Evidence from previous studies suggests that eccentric exercise may be associated with improvements in pain and

muscle-related outcomes in patients with lateral elbow tendinopathy.[11,12] However, these findings originate from studies with different designs and populations and cannot be used to establish that the eccentric exercises caused the change observed in this case. The increase from MMT grade 4 to grade 5 should also be interpreted cautiously because MMT is an ordinal clinical grading system and does not represent a proportional measurement of physiological muscle strength.

The total PRTEE score decreased from 50 at baseline to 20 after the fourth session, representing a 30-point reduction. PRTEE is designed to assess pain and functional limitation associated with lateral elbow disorders, with higher scores indicating greater impairment.[19] The reduction in this case therefore represents a lower patient-reported burden of pain and functional limitation at T4 compared with baseline. Although previous research has examined minimally important changes in PRTEE scores following physiotherapy,[20,21] the applicability of a specific MCID threshold to the revised English version used in this case requires verification of the corresponding instrument version, population, and methodological context. Consequently, the present finding is reported as an observed 30-point reduction rather than being classified definitively as a clinically important change based on an unverified threshold.

The multimodal approach used in this case reflects the clinical practice of combining interventions directed toward different aspects of the patient's presentation, including pain, mobility, muscle capacity, and functional limitation. Previous systematic reviews have reported heterogeneous findings for non-invasive interventions in lateral elbow tendinopathy, with low to very low certainty of evidence for several outcomes.[4] This variability supports the importance of interpreting individual clinical cases within their specific patient and treatment context. In the present case, the combination of TENS, IRR, myofascial release, stretching, MWM, active ROM exercise, eccentric wrist extension and flexion, and a home exercise program means that the observed changes represent the overall clinical course during multimodal management rather than the effect of a single intervention.

Several limitations should be considered when interpreting these findings. First, the report describes a single patient without a comparison group, limiting generalizability and preventing causal inference. Second, outcome measurements were available only at T1 and T4, so the trajectory of change across T2 and T3 could not be established. Third, several intervention parameters, including progression between sessions and some device-specific settings, were not documented, limiting reproducibility. The home exercise program was also incompletely documented, including the exact dosage, and patient adherence and its monitoring method were not available. These limitations reflect gaps in the original clinical documentation and were not supplemented retrospectively. In addition, no formal patient perspective was collected or documented, limiting the ability to describe the patient's subjective experience of the treatment beyond the standardized outcome measures.

Future studies should use larger samples and stronger comparative designs to investigate the effects of individual physiotherapy components and their combinations in lateral epicondylitis. Standardization of intervention parameters, including electrotherapy dosage, manual therapy procedures, exercise intensity, progression, and home exercise adherence monitoring, would improve reproducibility. Serial outcome assessment across treatment sessions and longer follow-up would also provide a clearer understanding of the temporal pattern and persistence of clinical changes. Grip strength and validated functional measures such as PRTEE may further contribute to comprehensive evaluation.

Overall, this case documents changes in pain, wrist ROM, wrist muscle strength, and patient-reported functional status following four sessions of multimodal physiotherapy. The findings should be interpreted as clinical changes observed in a single patient rather than evidence of treatment efficacy. Because multiple interventions were administered concurrently and intermediate measurements were unavailable, the contribution of individual treatment components cannot be determined.

Conclusion

After four sessions of multimodal physiotherapy over two weeks, the patient with lateral epicondylitis demonstrated observed changes in pain intensity, wrist range of motion, wrist muscle strength, and patient-reported functional status. Pain scores decreased from baseline, wrist flexion and extension increased, wrist flexor and extensor MMT grades increased from 4 to 5, and the total PRTEE score decreased from 50 to 20. These findings describe the clinical changes observed between the available baseline and post-treatment assessments. Because the case involved a single patient, lacked a comparison group, included multiple concurrent interventions, and had no outcome measurements at T2 and T3, the findings cannot establish treatment efficacy or determine the contribution of individual intervention components. The incomplete documentation of some intervention parameters and home exercise dosage, as well as the absence of systematically recorded adherence and patient perspective, further limits interpretation and reproducibility. The findings should therefore be considered a descriptive account of the patient's clinical course following multimodal physiotherapy rather than evidence of causal treatment effects.

Author Contribution

Fira Aulia Rahman: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing Original Draft, Visualization.
Immanuel Maulang: Supervision, Conceptualization, Methodology, Writing Review and Editing.
Aulia Masita: Supervision, Investigation.

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Conflict of Interest Statement

The authors declare that they have no conflicts of interest related to this case report.

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Ethics Statement

Written informed consent was obtained from the patient for participation and publication of anonymized clinical information. Patient confidentiality and privacy were maintained throughout the preparation of the manuscript. The original case documentation did not include a formally documented ethical approval or institutional exemption/waiver number. Therefore, no approval or exemption number is reported to avoid providing unsupported information. The case was managed as part of routine physiotherapy clinical practice without additional experimental procedures.

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