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Lateral Epicondylitis (Tennis Elbow): A Comprehensive Review of Historical Perspectives, Etiology, and Emerging Treatment Modalities

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Abstract

Background: Elbow pain is a common complaint among patients who refer to general medicine, orthopedics, and rheumatology clinics. Lateral epicondylitis is one of the most common diagnoses in these patients. We present a comprehensive narrative review on different aspects of this affliction.

Methods: We reviewed all medical literature on the topic in PubMed, Embase, Cochrane, and Scopus, by searching for the keywords of Tennis Elbow and Lateral epicondylitis. We also reviewed the reference textbooks for orthopedics and hand surgery. All the related references in these sources, which seemed to be important, were also reviewed.

Results: Patients typically present with pain on the lateral side of their elbow, and simple activities such as shaking hands or opening jars may provoke pain, significantly impacting their quality of life. This condition predominantly affects middle-aged individuals and occurs equally in women and men. Lateral epicondylitis presents significant challenges for diagnosis and management, with its etiology, diagnosis, and treatment being subjects of debate over the last 150 years. Although most of patients achieve relief with nonsurgical treatment—estimated at approximately 85%—a small percentage may ultimately require surgical intervention; however, many patients in this group will find relief from their symptoms.

Conclusion: While lateral epicondylitis is often perceived as a straightforward condition, the complexities of its diagnosis and management underscore the need for continued research and clinical awareness. Future studies should focus on elucidating specific underlying mechanisms of the condition, optimizing treatment protocols, and addressing gaps in understanding that contribute to frustrations experienced by both patients and healthcare providers.

Keywords: Elbow, Pain, Tennis elbow, Treatment outcome

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Introduction

Lateral epicondylitis, commonly referred to as tennis elbow, is a prevalent musculoskeletal condition characterized by pain and tenderness on the lateral aspect of the elbow (1). Although the term "tennis elbow" is widely recognized, lateral epicondylitis is also referred to by several other names, including epicondylosis, tendinosis, epicondylalgia, and angiofibroblastic hyperplasia (2,3). Epicondylosis specifically refers to degenerative changes in the tendon, while tendinosis indicates chronic degeneration without inflammation (4). Epicondylalgia describes pain associated with the epicondyle that may occur independent of inflammation or degeneration processes (5).

Lateral epicondylitis primarily affects middle-aged individuals and can significantly impair daily activities and quality of life. Despite its name, lateral epicondylitis is not exclusively associated with tennis or athletic activities; rather, it often results from repetitive strain and overuse in various occupational and recreational contexts (1,6).

The etiology of lateral epicondylitis is multifactorial, involving degenerative changes in the extensor carpi

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radialis brevis tendon due to chronic microtrauma. This condition presents a diagnostic challenge, as symptoms can overlap with other pathologies affecting the elbow (7). Consequently, accurate diagnosis and effective management are critical for optimal outcomes in patients.

There are a variety of treatment options for lateral epicondylitis, ranging from conservative measures such as physical therapy and corticosteroid injections (8,9) to surgical interventions for refractory cases. Recent studies have explored the efficacy of various surgical techniques, including arthroscopic debridement (10), tendon repair (11), and ultrasound-guided procedures (12). The ongoing debate regarding the most effective treatment approach underscores the need for continued research to elucidate the underlying mechanisms of the condition and to optimize therapeutic strategies.

This article aimed to provide a comprehensive overview of the current understanding of lateral epicondylitis, including its epidemiology, pathophysiology, diagnostic methods, and treatment options. By synthesizing recent findings from clinical studies, we hope to enhance awareness among healthcare providers and contribute to improved management practices for patients suffering from this debilitating condition.

Methods

Strategy

A structured approach for identifying all relevant literature on tennis elbow across selected databases and sources using predefined keywords, Boolean operators, and inclusion/exclusion criteria.

- Databases: PubMed, Embase, Cochrane Library, Scopus, and CINAHL
- Keywords: "Tennis elbow", "lateral epicondylitis", "elbow tendinopathy", and "lateral elbow pain"
- Filters: English language, human subjects, publication dates from 2020 to 2025

Study Selection

- Title and abstract screening by at least two independent reviewers
- Full-text review of potentially eligible studies
- Resolution of disagreements by consensus or third-party adjudication

Inclusion Criteria:

- Studies on diagnosis, treatment, epidemiology, or outcomes related to tennis elbow
- Human subjects
- Clinical trials, cohort studies, and systematic reviews

Data Extraction

- Author(s), year of publication
- Study design and setting
- Population characteristics (e.g., sample size, age, sex)
- Interventions (if applicable)
- Outcomes measured (e.g., pain, function, and recurrence)
- Main findings and conclusions

Critical Appraisal

- To ensure that only high-quality evidence informs conclusions
- To assess the internal validity and applicability of each study's findings

Results

History of nomenclature

Runge is likely to be the first person in medical history who described lateral epicondylitis in 1873 (13). However, the term itself is commonly attributed to Henry Morris, who wrote about "Lawn Tennis Arm" in The Lancet in 1882 (14). In his letter, Morris referred to his own condition and used tennis as a convenient reference for what he believed provoked it. One year later, Morris published another paper (15) in which he ascribed the symptoms to a sprain involving the "muscularis pronator radii teres" and the intermuscular septum. It appears that he was describing Golfer's elbow, a notion that received little support later (16).

The term "Golfer's elbow" is sometimes used interchangeably with lateral epicondylitis; however, it more accurately refers to medial epicondylitis, which affects the inner side of the elbow. Morris's term "Lawn Tennis Arm" resurfaced in a letter to the British Medical Journal in 1883 when Dr. Major described his own experience with the condition, attributing the pathology to issues with the annular ligament and triceps tendon (17). Controversy arose soon after; according to Winckworth (18), not all symptoms could be explained by sprains alone, suggesting a role for nerve entrapment (posterior interosseous nerve and median nerve). O'Sullivan concurred that posterior interosseous nerve entrapment contributes to symptoms (19). Winckworth maintained his beliefs 23 years later (20), asserting that playing tennis may not be related to lateral epicondylitis—a view supported by current evidence indicating that most individuals affected are neither tennis players nor athletes (1,21), with tennis playing identified as a direct cause in only 5% of cases (22). Conversely, some may dispute this idea since up to 50% of tennis players are affected (23). The ongoing debates regarding the etiology and treatment of lateral epicondylitis have caused frustration for both patients and physicians. As noted, "Few conditions elicit as much frustration and controversy regarding cause, treatment, and outcomes among patients and physicians" (7). The title of Winckworth's letter to BMJ was "Tennis Elbow."

Epidemiology

In 1974, the prevalence of lateral epicondylitis was

estimated to be between 1% and 3% of the general population in Sweden (24). Dimberg reported that it affected 7.5% of industrial workers and between 40% and 50% of regular tennis players (23). The incidence appears similar across both sexes, with peak incidence occurring in individuals in their early 50s (1,25), primarily affecting those aged between 35 and 54 years (26). In this latter group, up to 19% may be afflicted (27). An incidence rate of approximately 3.4 per 1000 individuals has been reported in the general population, with rates of 7.8 cases per 1000 males and 10.2 cases per 1000 females in the 40–49 age group (21).

Etiology

The etiology of the condition remains unclear and appears to be multifactorial, often occurring in physiologically susceptible individuals due to repetitive microtrauma. While the condition is frequently idiopathic or related to occupational activities, it is not predominantly associated with tennis or other sports (7). Factors such as forceful activities, smoking (7), and a decreased carrying angle of the elbow (28) have been implicated in its development. Most researchers believe that the primary pathology involves degenerative changes rather than an inflammatory process affecting the common extensor origin, particularly the extensor carpi radialis brevis—an idea first proposed in 1936 (1,7,25,29). Additionally, involvement of the extensor digitorum communis is also common (7,30), while engagement of other muscles such as the extensor carpi ulnaris and extensor carpi radialis longus occurs but is relatively rare (31,32). Despite these findings, some authors hypothesize that pain may arise from irritation of the capsule or synovium and have suggested treatments based on this theory (33).

Clinical Presentation

Symptoms and signs

Diagnosis is clinical and usually straightforward. Patients commonly report pain with an insidious onset, often occurring 1 to 3 days after severe physical activity involving wrist extension. While some patients are athletes, the majority are not (1,21). Patients typically complain of pain on the lateral side of the elbow, exacerbated by grasping objects or making a fist. There is often a history of acute injury that exacerbates a chronic condition, such as trauma from lifting heavy objects.

The pain can be disabling, preventing patients from lifting a cup or opening a bottle (34). It is aggravated by activities requiring wrist dorsiflexion, supination, and pronation—especially with the elbow in complete extension—such as ironing, opening jars, or washing dishes. Shaking hands or lifting light objects may also cause significant discomfort. The pain can vary in intensity from slight to severe and may occur only during active use of the extremity or persist continuously.

Diagnostic criteria and methods

On physical examination, tenderness is often severe when palpating the lateral condyle, with peak tenderness typically occurring 5 mm distal and anterior to its midpoint (1). However, tenderness may also be noted 1 to 2 cm away from the condyle itself (34). Wrist extension against resistance causes pain, particularly when both the elbow and wrist are extended and the wrist is pronated (34). Similarly, resisted supination can elicit discomfort. Some authors consider tenderness elicited by resisted extension of the middle finger a helpful diagnostic sign (34), while others note its relevance for diagnosing radial tunnel syndrome (see below).

Several maneuvers have been suggested for diagnosis: in Mill's test, the elbow is flexed to 90 degrees while the examiner palpates the patient's lateral epicondyle with one hand and fully flexes the wrist while pronating the forearm; then, they extend the elbow. Cozen's test involves performing wrist extension against resistance with the forearm in maximal pronation while making a fist and radially deviating the hand. Maudsley's test requires flexing the elbow to 90 degrees with the forearm pronated; during this test, the examiner resists extension of the middle finger while palpating the lateral epicondyle (35). In the chair test, the examiner instructs the patient to lift a chair while keeping their shoulders adducted, elbows extended, and forearms pronated; pain over the lateral aspect of the elbow indicates a positive result (36).

With the recent increase in cell phone usage, a "selfie" test has been added to physical examination protocols for tennis elbow. In this test, the patient holds their cell phone in a selfie position—extending their elbow and flexing their wrist—while pushing their thumb on the screen; tenderness in the lateral elbow indicates a positive result (35).

The condition may be confused with other sources of lateral elbow pain, especially if pain is not localized to the epicondyle or is vague. Examples include osteochondritis dissecans, chondromalacia, cervical radiculopathy, radiocapitellar plica, periarticular tumors, loose bodies, elbow instability, degenerative arthrosis of the elbow, and particularly radial tunnel syndrome, which may coexist with lateral epicondylitis in approximately 5% of patients (1,7).

In radial tunnel syndrome, pain occurs distal to the lateral condyle and may intensify during middle finger extension against resistance; however, this finding is not conclusive as it can also present in patients with lateral epicondylitis (7). Electromyography and nerve conduction studies may assist in differentiating between these conditions, but often yield inconsistent findings (1).

Role of imaging studies

A thorough medical history and physical examination typically lead to an accurate diagnosis. Imaging studies may assist in ruling out other diagnoses, planning

treatment, and evaluating the extent of the disease (37).

Routine radiographic examination is not necessary to confirm the diagnosis; however, if there is uncertainty, radiographs of the elbow should be obtained. Radiographs are typically negative but may reveal calcific tendinitis in some cases (1), particularly in long-standing instances (34), observed in up to 25% of patients with this condition (38).

When uncertainty exists, sonography is highly sensitive but not specific and is likely one of the most useful methods available (35). One study reported that sonography can be as specific as MRI in diagnosing tennis elbow (39). Sonography should be considered a supplementary tool, but diagnosis should not rely solely on it, as is true for any paraclinical examination.

MRI has become an important tool for diagnosing and classifying tennis elbow (40), although it may sometimes be performed at the request of the patient or referring physician and can show findings in asymptomatic individuals (7). MRI is more sensitive than sonography and is recommended for patients whose diagnosis remains uncertain after normal sonography results (39).

Electrodiagnostic studies also play a role in this condition, although their utility is limited. Notably, patients with tennis elbow may exhibit changes in their EMG findings (41,42), particularly during extensor carpi radialis brevis (ECRB) activity; however, there are no consistent findings that definitively confirm the diagnosis of tennis elbow (43). These studies are most useful when employed to rule out other conditions, such as radiculopathy or radial tunnel syndrome.

Natural history

What occurs when a patient with tennis elbow does not seek treatment? It is generally believed that this condition is self-limiting and resolves without treatment within 12–18 months (7,44,45) However, this is not true for all patients; many experienced surgeons encounter individuals who have long-lasting disabling symptoms that are unresponsive to various treatments or the passage of time (46); this situation may represent an exception rather than the rule.

Treatment Options

A wide variety of operative and nonoperative treatments are available, and controversy continues regarding their effectiveness. There is a consensus that nonsurgical treatment should be prioritized over surgical options since it is typically self-limiting. Most authors agree that nonoperative treatments are highly effective, with 85% to 90% of patients responding positively (1,7,47). However, some authors report residual symptoms in up to 40% of patients who receive nonoperative treatment (46). Interestingly, at least one study has suggested that nonoperative treatments do not demonstrate greater effects than placebo (48). Nonoperative treatments include rest, application of stirrups, injections (corticosteroids, autologous blood, platelet-rich plasma (PRP), hyaluronic acid), dry needling, and physiotherapy. The literature lacks clarity on the effectiveness and superiority of different treatment methods; however, corticosteroid injections are among the most frequently used treatments and are sometimes suggested by patients. Two important points are worth mentioning: first, a recent study has indicated that PRP may provide more long-term benefits than corticosteroid injections (49), and second, prior corticosteroid injections have been associated with an increased risk of surgical failure (50). Additionally, needling of the tendon origin with fenestration or tenotomy may be more significant than the injected substance itself (7,51).

Most authors believe that surgery should only be considered after a patient has undergone a minimum of six months of conservative treatment during which nonoperative approaches have proven ineffective (7,50). Surgery for tennis elbow is rarely indicated; in a large series involving over 85,000 patients, only 2% ultimately underwent surgical intervention (52), with some experts arguing against surgery altogether (44). Surgical procedures typically involve resection of the affected tendon and possibly stripping and reattachment to the common extensor origin. This can be accomplished via open, percutaneous, or arthroscopic techniques, with or without ultrasound guidance (1,7). Boyd and McLeod have proposed an operation that aims to remove all potential sources of pain, including portions of the annular ligament and synovium (53). The aggressive surgical approach to treating lateral epicondylitis is currently not popular; instead, a more conservative approach is preferred (1). This may be because aggressive surgery is often deemed unnecessary, with limited procedures being adequate; however, controversy continues regarding this issue, and our routine practice involves performing more extensive techniques. Another debate concerns the necessity of routine posterior interosseous nerve release, especially given that lateral epicondylitis may coexist with other conditions or that patients may be misdiagnosed (54–57).

Another suggested treatment involves denervation of the lateral epicondyle by transecting both the posterior cutaneous nerve of the forearm and its posterior branch (58–60). Intraarticular procedures have also been advocated since plica syndrome of the radiocapitellar joint may mimic or coexist with tennis elbow (61–63). Surgery for lateral epicondylitis appears to yield high success rates, with excellent results reported for both arthroscopic and open techniques (1,7,64). Approximately 95% of patients express satisfaction with their surgical outcomes; however, recovery may require several months of rest, patience, and rehabilitation (65). A lack of improvement or significant residual symptoms after 6 to 9 months may

indicate treatment failure (66).

Surgery for lateral epicondylitis can present significant challenges for both patients and surgeons. Failed surgery or residual symptoms may arise from various factors, including incorrect diagnosis, inadequate surgical technique, complications from surgery or iatrogenic injury, as well as patient-related factors such as noncompliance with postoperative protocols, psychological factors, and issues related to workers' compensation (60,61). A comprehensive evaluation—including physical examination, paraclinical workup, and nerve block—should be conducted before embarking on a new treatment plan. Despite these challenges, revision surgery appears to be very successful, with 80% to 90% of patients responding positively (62,63).

Table 1 and 2 present a comprehensive overview of recent studies focusing on emerging treatments for lateral epicondylitis. This includes novel injection therapies, such as autologous blood injections and PRP injections, which have gained attention for their potential to enhance healing and reduce pain. Additionally, we explore minimally invasive surgical techniques, including arthroscopic debridement and radiofrequency ablation, which offer promising alternatives to traditional surgical methods.

Failed surgery for lateral epicondylitis

Given that 95% of patients respond to conservative treatment, and among the remaining 5%, a significant proportion responds positively to surgical intervention, encountering a patient with failed lateral epicondylitis surgery presents challenges for both the patient and the surgeon. Failed surgery or residual symptoms may arise from various causes, including incorrect

Table 1. Novel Injection Therapies

Treatment	Study	Study Design	Intervention	Follow up period	Findings
Autologous Blood Injections	Keijsers et al (2024) (67)	Randomized controlled trial	Autologous blood injection, dextrose injection, and needle perforation at the extensor carpi radialis brevis tendon origin	8 weeks, 5 months, and 1 year after treatment	Results indicated that autologous blood and dextrose injections do not provide additional benefits over needle perforation alone for treating lateral epicondylitis, suggesting that these injection therapies are not recommended for this condition.
	Cakar and Gozlu (2024) (68)	Randomized controlled trial	Autologous blood injection, corticosteroid injection, and a combined autologous blood and corticosteroid injection	15 days, 30 days, and 90 days after injection	The study concluded that while both autologous blood and corticosteroids offer distinct benefits, the combination of autologous blood and corticosteroids optimizes therapeutic outcomes, promoting rapid and sustained recovery in lateral epicondylitis.
	Kaya et al (2022) (69)	Randomized controlled trial	Corticosteroid injection, autologous blood injection, prolotherapy injection, and wrist splint group	1 month and 6 months after treatment	The study reported that corticosteroids, autologous blood, and prolotherapy injections are effective and safe long-term treatments.
	Dierickx et al (2023) (70)	Prospective comparative study	This study compared two infiltration treatments using the Instant Tennis Elbow Cure (ITEC) technique: One group received betamethasone with lidocaine, and the other received autologous blood.	6 weeks, 3 months, and 6 months after intervention	The results indicate that corticosteroid infiltration is more effective for short-term relief, while autologous blood offers greater long-term benefits.
Hyaluronic Acid Injections	Yalcin and Kayaalp (2022) (71)	Randomized controlled trial	Triamcinolone injection, hyaluronic acid injection	6 weeks and 12 weeks after the injection therapy	Both treatments effectively relieved pain and improved functional outcomes; however, these effects were short-lived, with MRI findings not reflecting the substantial clinical improvements noted.
	Pellegrino et al (2022) (72)	Retrospective longitudinal study	High-intensity laser therapy and hyaluronic acid injections versus therapeutic exercise	1 month, 3 months, and 6 months	The results suggest that high-intensity laser therapy combined with hyaluronic acid peritendinous injection may be more effective for short- to medium-term management of lateral elbow tendinopathy than therapeutic exercise alone.
	Apaydin et al (2020) (73)	Randomized controlled trial	Hyaluronic acid injection versus dextrose prolotherapy injection	3 weeks and 6 weeks after treatment	Both treatments were effective, but dextrose prolotherapy provided superior short-term pain relief and functional improvement.
PRP Injections	Krishnan et al (2024) (74)	Randomized controlled trial	PRP and corticosteroid injections	6 months	The study concluded that PRP is superior to corticosteroid injections for the long-term management of lateral epicondylitis, offering improved pain relief and functional recovery.
	Sharma et al (2024) (75)	Single-center, single-blinded, randomized controlled trial	Ultrasound-guided dry needling and PRP injection	1 month, 3 months, 6 months post-procedure, and monthly follow-up from 6 to 9 months	The study determined that ultrasound-guided PRP is a more efficacious non-operative intervention compared to dry needling.
	Kıvrak and Ulusoy (2023) (76)	Comparative, interventional clinical trial	PRP, corticosteroids, and autologous blood injections	The second week, the fourth week, the third month, and the sixth month after treatment	The study concluded that corticosteroids provide short-term relief, while PRP and autologous blood injections are more effective for long-term management.

Table 2. Minimally Invasive Surgical Techniques

Treatment	Study	Study Design	Intervention	Follow-up period	Findings
Arthroscopic Debridement	Yang et al (2024) (10)	Retrospective cohort study	The study compared two arthroscopic treatments: Standard debridement with extensor carpi radialis brevis tendon release (2016-2019) and extensor carpi radialis brevis tenotomy without debridement (2019-2021)	The follow-up period was a minimum of two years.	The findings suggest that tenotomy is effective and non-inferior to débridement for improving function and reducing pain.
	Li et al (2022) (77)	Cohort study	Traditional arthroscopic debridement of the extensor carpi radialis brevis tendon versus an extended debridement procedure including tenotomy	3, 6, and 12 months postoperatively	The extended extensor carpi radialis brevis debridement technique resulted in better early pain relief and faster return-to-work times, with no differences in outcomes at one year; however, more abnormal MRI findings were observed in the control group.
	Li et al (2021) (78)	Retrospective cohort study	Arthroscopic debridement of the extensor carpi radialis brevis tendon alone versus tendon repair using a suture anchor	The follow-up period was a minimum of 12 months.	Arthroscopic suture anchor repair resulted in better outcomes than arthroscopic debridement.
	Paksoy et al (2021) (79)	Retrospective cohort study	Arthroscopic lateral capsule resection with extensor carpi radialis brevis tendon debridement versus lateral capsule resection alone	The average duration of follow-up was 61 months.	Both surgical techniques improved pain and function, suggesting that isolated arthroscopic lateral capsular resection may be sufficient for refractory lateral epicondylitis without necessitating extensor carpi radialis brevis debridement in all cases.
Radiofrequency Ablation	Umapathy et al (2024) (80)	A case report involving two patients	Ultrasound-guided radiofrequency ablation of the epicondylar branch of the posterior cutaneous nerve of the forearm	8 weeks, 5 months, and 7 months	The findings suggest that radiofrequency ablation may be an effective treatment option for recalcitrant lateral epicondylosis, warranting further investigation through larger comparative trials.
Ultrasound-Guided Techniques	Nakagawa et al (2023) (12)	Retrospective cohort study	Ultrasound-guided tenotomy versus ultrasound-guided tenotomy combined with amniotic membrane injection	52 weeks	Both augmenting ultrasound-guided tenotomy alone and in combination with amniotic membrane allograft injections led to significant pain reduction and high patient satisfaction.
	Thiele et al (2023) (81)	Prospective, nonrandomized, multicenter clinical trial	Ultrasound-guided infiltration combined with fenestration of the extensor tendon	6 weeks, 12 weeks, 6 months, and 12 months after intervention	The study demonstrated a significant reduction in pain and improvement in function across all treatment groups after 6 months; however, some patients required re-infiltrations, and 14.5% showed no improvement.
	Bureau et al (2022) (82)	Randomized controlled trial	Ultrasound-guided dry needling compared to open-release surgery	6 months	The findings indicate that ultrasound-guided dry needling provides comparable improvements in pain, function, and overall satisfaction to open-release surgery.
	Chalian et al (2021) (83)	Prospective observational cohort study	Ultrasound-guided percutaneous needle tenotomy using the Tenex system (Tenex Health Inc., Lake Forest, CA, USA)	The follow-up period was over 38 months	Ultrasound-guided percutaneous needle tenotomy with Tenex effectively enhances symptoms and function in patients with lateral epicondylitis, and post-procedure physical therapy is beneficial for treatment outcomes.
Endoscopic Surgery	Choudhury et al (2024) (84)	Retrospective observational study	Continued intensive conservative management versus arthroscopic release with lateral epicondyle decortication	The follow-up period was at least 3.5 years.	The results of the study showed that arthroscopic release of the extensor carpi radialis brevis and lateral epicondyle decortication demonstrated a significantly earlier return to work compared to continued intensive conservative treatment.
	López-Alameda et al (2022) (11)	Comparative study	Arthroscopic surgery versus open surgery	The follow-up period of the study was at least 1 year	The study concluded that both surgical approaches yield comparable functional results and pain relief in treating lateral epicondylitis.
	Goyal et al (2022) (85)	Prospective, non-randomized, interventional study	Intensive conservative treatment versus arthroscopic extensor carpi radialis brevis release with decortication	24 months	The study concluded that arthroscopic release provides better functional outcomes and pain relief than continued conservative treatment for recalcitrant lateral epicondylitis.

diagnosis, inadequate or improper surgical technique, complications from surgery or iatrogenic injury, as well as patient-related factors such as noncompliance with postoperative protocols, psychological factors, and issues related to workers' compensation claims (86,87). A comprehensive evaluation of the patient—including physical examination, paraclinical workup, and nerve block—should be conducted before embarking on a new treatment plan. Nevertheless, revision surgery appears to be quite successful, with 80% to 90% of patients responding positively (88,89). Approximately 10% of patients who undergo revision surgery do not achieve relief; this translates to roughly 1 in every 4000 patients with tennis elbow.

Discussion

Lateral epicondylitis, commonly known as tennis elbow, is a prevalent musculoskeletal condition that significantly impacts the quality of life for many middle-aged individuals. Despite being recognized in medical literature for over a century, misconceptions persist about its association primarily with tennis and other specific sports; many believe it only affects athletes rather than those engaged in various occupational and daily activities.

Epidemiologically, lateral epicondylitis affects a considerable portion of the population, particularly individuals aged 35 to 54 years. Degenerative changes primarily involve the extensor carpi radialis brevis tendon, underscoring the importance of acknowledging the condition's multifactorial etiology.

Clinically, diagnosis relies on patient history and physical examination, with various diagnostic tests available to confirm the condition. While imaging studies can offer additional insights, they are not always required for diagnosis.

Treatment strategies remain a subject of ongoing debate, with conservative management being the primary focus. Approximately 85% to 90% of patients respond favorably to nonoperative treatments such as rest, physical therapy, and injections; however, for approximately 10% of patients who do not achieve relief, surgical intervention may be warranted, although it is rarely indicated.

Conclusion

While lateral epicondylitis is often perceived as a straightforward condition, the complexities of its diagnosis and management underscore the need for continued research and clinical awareness. Future studies should focus on elucidating specific underlying mechanisms of the condition, optimizing treatment protocols, and addressing gaps in understanding that contribute to frustrations experienced by both patients and healthcare providers. This comprehensive review lays the groundwork for further exploration in the field, ultimately aiming to enhance patient outcomes and improve quality of life.

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Competing Interests

The authors declare that they do not have any conflict of interest.

Ethical Approval

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