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Letter

Acupuncture for lateral epicondylitis with skin degeneration after steroid injection: a case report

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Background

Lateral epicondylitis, commonly known as tennis elbow, is a tendinopathy characterized by pain and tenderness at the lateral epicondyle of the elbow. It is not driven by inflammation but rather by an incomplete healing response to repetitive microtrauma along with vascular degeneration of the tendon.[1] Nonsurgical treatments—including steroid injections and shock wave therapy—can help improve symptoms; however, methods such as steroid injections offer only short-term benefits and may result in complications like skin degeneration.[1,2] Given these limitations, complementary treatments with fewer side effects—such as acupuncture—are often considered as alternative options.[2]

Case presentation

A 51-year-old female presented with severe pain in the right lateral elbow, which had persisted since early 2023 because of home nursing activities. During her initial evaluation, Cozen's and Mill's tests—which are used to diagnose lateral epicondylitis by reproducing pain at the lateral epicondyle—were positive. She exhibited a restricted range of motion (ROM) at the elbow, significant pain during wrist extension, reduced grip strength and difficulty applying force to the forearm (Table 1). She received orthopedic treatments—including periodic steroid injections and extracorporeal shock wave therapy—for a year; however, these interventions were deemed ineffective. In addition, she experienced complications including skin hypopigmentation and atrophy of the subcutaneous fat overlying her right elbow (likely from excessive steroid use).

Acupuncture treatment

Over a 9-week period from 10 January to 13 March 2024, acupuncture treatments were administered twice weekly. Single-use, coated stainless-steel needles (0.25 mm × 40 mm, Dongbang, Korea) were inserted perpendicularly at traditional acupuncture point locations including LU5 (*Chize*), LI11 (*Quchi*), LI12 (*Zhouliao*) and LI10 (*Shousanli*). In addition, needles were placed in painful areas around the origin of the extensor muscles—such as the extensor carpi radialis longus, extensor carpi radialis brevis, brachioradialis and supinator muscles—and advanced to a depth of up to 20–25 mm. These needling locations were selected to address the local pain, inflammation and muscle tension associated with lateral epicondylitis. Needle manipulation with rotation and lifting/thrusting was applied to elicit *de qi* sensation. No adverse effects were observed during the treatment period.

Clinical outcome

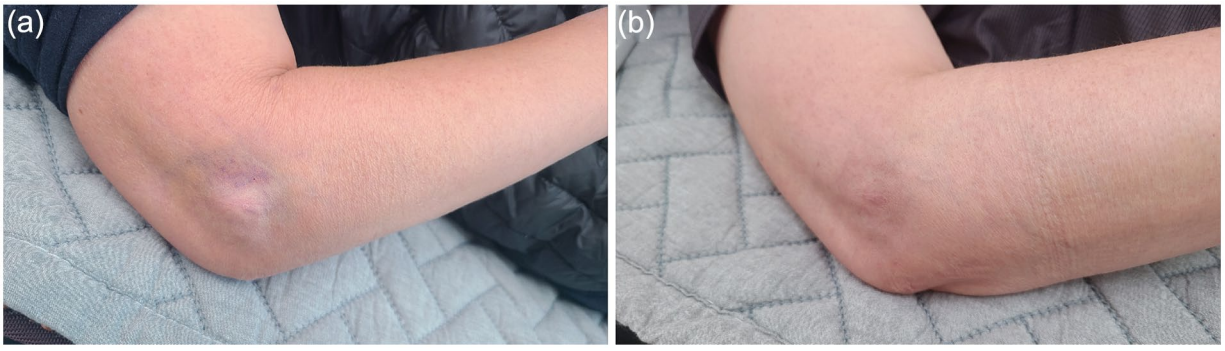
After 9 weeks of acupuncture treatment, the patient reported marked improvement in her elbow pain, with a notable increase in the ROM (Table 1). Grip strength also showed considerable improvement and both the Cozen's and Mill's tests returned negative results, indicating successful resolution of her

Table 1. Trends in elbow pain NRS scores, grip strength and elbow ROM throughout the treatment period.

Measure		Date			
		10 January 2024	31 January 2024	21 February 2024	13 March 2024
NRS for right elbow pain		10	7	6	2
Grip test score (right/left)		7/23	12/21	14/23	21/22
ROM of elbow (right/left)	Flexion	150(+)/150	150(+)/150	150/150	150/150
	Extension	0(+)/0	0(+)/0	0/0	0/0
	Supination	80(+)/90	80(+)/90	90(+)/90	90/90
	Pronation	80(+)/90	80(+)/90	90(+)/90	90/90

NRS: numeric rating scale. ROM: range of motion. (+): accompanied by pain.

Figure 1. Photographs of the right elbow of a patient with lateral epicondylitis complicated by skin hypopigmentation and subcutaneous fat atrophy before (a) and after (b) 9 weeks of acupuncture treatment.



lateral epicondylitis symptoms. In addition, steroid-induced complications—including skin hypopigmentation and subcutaneous fat atrophy—showed signs of improvement (Figure 1).

Comment

Acupuncture is a simple, inexpensive and effective treatment that is widely practiced in Asia and is well accepted for the treatment of musculoskeletal conditions, such as lateral epicondylitis.[3] However, to our knowledge, there have been no prior reports on its effect on the tissue side effects caused by steroid injections in patients with lateral epicondylitis. Steroid-induced atrophy and hypopigmentation remain localized at the injection sites.[4] In this case, acupuncture treatment not only appeared to alleviate lateral epicondylitis symptoms but also appeared to accelerate recovery from steroid-induced side effects (subcutaneous fat atrophy and skin hypopigmentation), which typically take several months to over a year to improve without intervention.[5] Although we cannot prove that acupuncture directly improved these side effects, the observed improvements over a relatively short time period might be attributed to the potential of acupuncture to enhance local microcirculation and stimulate tissue regeneration, thus potentially expediting the healing process. If they can be replicated, these findings suggest that acupuncture could serve as a conservative and effective approach for both the primary symptoms of lateral epicondylitis and secondary complications from steroid injections.

Ultimately, no firm conclusions can be drawn from this single, uncontrolled case report. Accordingly, generalization of these observations is not advisable. Despite these limitations, we believe this case study is meaningful as it is, to our knowledge, the first to document the effects of acupuncture on both lateral epicondylitis symptoms and steroid injection side effects. Given that no definitive treatment exists for lateral epicondylitis and that positive results were observed in this case, further research in this specific area is warranted. Ultimately, a randomized controlled trial with a sufficiently large sample size will be needed to confirm the efficacy of acupuncture with regard to the potential treatment of the side effects of steroids.

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Contributors

JK provided supervision. NYH and HJ collected the data. JWP analyzed the data. SH drafted the manuscript. SJK reviewed and edited the manuscript. All authors read and approved the final version of the manuscript accepted for publication.

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