TENNIS ELBOW AND ITS REHABILITATION

Chapter

6

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Known as lateral epicondylitis, tennis elbow shows itself with prevalent musculoskeletal complaints in the proximal and lateral of the elbow. These complaints are generally pain and functional disability. The diagnosis was introduced by a researcher, named Runge, in the year of 1873 (1). Lateral epicondylitis affects 1-3% of the general population every year. Although it is stated that it affects both genders in some sources, some of them state that women are affected more. Lateral epicondylitis generally affects people in the age group of 30-60. Although it is named to be tennis elbow, tennis is a factor in only in 5-10% of the cases, and it can occur in any stage of their life of 40-50% of the people playing tennis. It is seen in 59 of every 1000 people among industry workers, and the World Health Organization (WHO) classified lateral epicondylitis as a reason of disability as it limits the work capacity in 1980, and it is a cause of early retirement (1,2).

Although lateral epicondylitis is known for more than a hundred years, it is etiology could not be understood certainly. Nirschl was the first person who explained the etiologic factor and stated that the mechanic disorder in the elbow applied a force, increasing the load on the force system, and insufficient front arm extensor muscle power and endurance cause intrinsic overload, while insufficient front arm extensor muscle flexibility causes extrinsic overload. In the literature, 26 potential mechanisms were suggested, and they were divided into 3 groups as neuroirritative process, repeating pain and tendon damage. It is said that genetic, chemical, vascular and hormonal factors take roles in the etiology of lateral epicondylitis. As its etiology is not certainly known, it is thought that repetitive micro-traumas and excessive usage are effective factors. In the occurrence of the symptoms, the repetitiveness of the movement is more important than the force which is needed to make the move. With the repeated traumas, occurring as the result of excessive usage, partial or complete ruptures can develop in the tendon. In the works, which require gripping and such turning movements as supination and pronation in the wrist, or in those who do this kind of sports, the extensor

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References

- 1. Calfee R.P., Patel A, DaSilva MF, et al. Management of lateral epicondylitis: current concepts. Journal of the American of Orthopaedic Surgeons. 2008;16(1):19-29.
- 2. Sevier TL, Wilson JK. Treating lateral epicondylitis. Sports Med. 1999;28(5):375-380.
- 3. Cohen M, Filho GRM. Lateral epicondylisis of the elbow. Rev Bras Ortop. 2012;47(4):414-20.
- 4. Labelle H, Guibert R, Joncas J, et al. Lack Of scientific evidence for the treatment of lateral epicondylitis of the elbow. J Bone Joint Surg. 1992;74-B:646-51.
- 5. Johnson GW, Cadwallader K, Scheffel SB, et al. Treatment of lateral epicondylitis. Am Fam Physician.2007;76:843-848.
- 6. Bateman M, Titchener AG, Clark DI, et al. Management of tennis elbow: a survey of UK clinical practice. Shoulder & Elbow. 2017;0(0):1-6.
- 7. Pienimaki T, Tarvainen T, Siira P, et al. Associations between pain, grip strenght and manual tests in the treatment evaluation of chronic tennis elbow. Clin J Pain. 2002;18(3):164-170.
- 8. Haker E. Lateral epicondylalgia: diagnosis, treatment and evaluation. Crit Rev Phys Rehabil Med. 1993;5:129-154.
- 9. Bisset LM, Vicenzino B. Physiotherapy management of lateral epicondylalgia. Journal of Physiotherapy. 2015;61:174-181.
- 10. Smidt N, Assendelft W, Arola H, et al. Effectiveness of physiotherapy for lateral epicondylitis: a systematical review. Ann Med. 2003;35:51-62.
- 11. Nagrale AV, Herd CR, Ganvir S, et al. Cyriax Physiotherapy versus phonophoresis with supervised exercise in subjects with lateral epicondylalgia: A randomized clinical trial. Journal of manual and manipulative therapy. 2016;17(3);171-178.
- 12. Stasinopoulos D. Can extracorporeal shock-wave therapy be used for the management of lateral elbow tendinopathy? World J Methodol. 2018;8(3):37-39.
- 13. Rogoveanu O-C, Muşetescu AE, Gofita C-E, et al. The effectiveness of shockwave therapy in patients with lateral epicondylitis. Current Health Sciences Journal.2018;44(4):368-373.
- 14. Speed CA, Nichols D, Richards C, et all. Extracorporeal shock wave therapy for lateral epicondylitis-a double blind randomised controlled trial. Journal of Orthopaedic Research. 2002;20:895-898.
- 15. Tang H, Yu T, Wei W, et all. Effect of extracorporeal shock wave for tennis elbow: a protocol for systematic review of randomized controlled trial. Medicine. 2019;98(7):1-4.
- Basford JR, Sheffield CG, Cieslak KR. Laser therapy: A randomized, controlled trial of the effects low intensity Nd: YAG laser irradiation on lateral epicondylitis. Arch Phys Med Rehabil.2000;81:1504-1510.
- 17. Celik D, Anaforoglu Kulunkoglu B. Photobiomodulation Therapy Versus Extracorporeal Shock Wave Therapy in the Treatment of Lateral Epicondylitis. Photobiomodul Photomed Laser Surg. 2019;37(5):269-275.
- 18. Viswas R, Ramachandran R, Korde AP. Comparison of effectiveness of supervised exercise program and Cyriax physiotherapy in patients with tennis elbow: randomized clinical trial. TheScientificWorldJournal.2012;2012:939645.

- 19. Nagrale AV, Herd CR, Ganvir S, et al. Cyriax physiotherapy versus phonophoresis with supervised exercise in subjects with lateralepicondylalgia: a randomized clinical trial. J Man Manip Ther. 2009;17(3):171-8
- 20. Verhaar JA¹, Walenkamp GH, van Mameren H, et al. Local corticosteroid injection versus Cyriax-type physiotherapy for tennis elbow. J Bone Joint Surg Br. 1996;78(1):128-32
- 21. Herd CR, Meserve BB. A systematic review of the effectiveness of manipulative therapy in treating lateral epiconylalgia. Journal of manual and manipulative therapy. 2008;16(4):225-237.
- 22. Bisset L, Beller E, Jull G, et al. Mobilisation with movement and exercise, corticosteroid injection, and wait and se efor tennis elbow:randomized trial. BMJ. 2006;333(7575):939.
- 23. Dones VC, Serra MA, Kamus GO, et al. The effectiveness of biomechanical taping technique on visual analogue scale, static maximum handgrip strength and patient rated tennis elbow evaluation of patients with lateral epicondylalgia: a cross over study. Journal of Bodywork&Movement Therapies. 2019;23:405-416.
- 24. Au IPH, Fan PCP, Lee WY, et al. Effects of kinesio tape in people with lateral epicondylitis: A deceptive crossover trial. Physiotherapy Theory end Practice DOI: 10.1080/09593985.2017.1359871.
- 25. Giray E, Karali-Bingul D, Akyuz G. The Effectiveness of Kinesiotaping, Sham Taping or Exercises Only in Lateral EpicondylitisTreatment: A Randomized Controlled Study. PM R. 2019 Jan 4. doi: 10.1002/pmrj.12067.
- 26. Xu Q, Chen J, Cheng L. Comparison of platelet rich plasma and corticosteroids in the management of lateral epicondylitis: A meta-analysis of randomized controlled trials. Int J Surg. 2019;67:37-46.
- 27. Moradi A, Pasdar P, Mehrad-Majd H, et al. Clinical Outcomes of Open versus Arthroscopic Surgery for Lateral Epicondylitis, Evidence from a Systematic Review. Arch Bone Jt Surg. 2019;7(2):91-104.
- 28. LateralEpicondylitis.https://www.massgeneral.org/ortho-hand/conditions-treat-ments/pdfs/TennisElbow.pdf