

# **LOKOMOTOR SİNİR SİSTEMİ HASTALIKLARINDA NÖRALTERAPİ UYGULAMALARI**

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Nöralterapi (NT) çok düşük dozlarda lokal anestezik maddenin terapötik ve diagnostik olarak kullanıldığı regülayon tedavisidir. "Lokal ve segmental infiltasyon anestezisi" ya da "diyagnostik ve terapötik lokal anestezi" olarak da adlandırılmaktadır. Cerrahide kullanım amacı kısa süreli lokal anestezi iken, nöralterapide kullanım amacı ağrı ve fonksiyonel bozukluğun uzun süreli tedavisidir. Nöralterapi, modern tipta enjeksiyon tekniği ve lokal anestezik kullanımı ile yer alırken tamamlayıcı tıbbın içinde bütüncül olarak tedaviye yardımcı bir metoddur (1,2).

Tüm vücudumuzda yaklaşık 500.000 km uzunluğunda bir elektriksel ağ yapısında olan vejetatif (otonom) sinir sistemi mevcuttur. Bu sistem vücudumuzun kapiller yapısına kadar ulaşan ve her yeri kuşatan bir bilgisayar ağrı gibi çalışmaktadır. Beyin sapi, medulla spinalis ve hipotalamustan kaynak alır. Sempatik ve parasempatik sistemden oluşur. Vücutta birçok yapıyı innerve ederken saçları, tırnakları ve dişleri inerve etmez. Solunum, dolaşım, sindirim, vücut ısısı ve hormonal regülasyon gibi insan vücudunda birçok hayatı süreçte ve hücreler arasındaki bağlantıda önemlidir. Kas, sinir ve bağ dokusu gibi uyarılabilen dokular bir uyarın ile hücre membranının elektriksel alanında değişikliğe sebep olarak aksiyon potansiyelinin bozulmasına neden olur. Skar dokusu gibi dokusu bozulmuş yapının oluşturduğu anormal bir elektiriksel aktivite vücudun diğer yerlerine taşınmaktadır (3-5). Enfeksiyon, dental işlem, cerrahi, fiziksel ve mental travma, aşırı, dövme ve stres bozucu alan oluşturmaktadır. İlk defa Huneke ve kardeşlerinin 1944 yılında "Lokal anestezikler ve uzak etkileri" bildirisinde bozucu alan kavramından ve etkilerinden bahsedilmiştir. Omuz ağrısı ile gelen hastanın enfekte dizine yapılan lokal anestezik uygulaması ile omuz ağrısının geçtiği gösterilmiş ve bozucu alan kavramından bahsedilmiştir (6).

Otonom sinir sisteminin en çok dikkat çeken özelliklerinden biri, iç organlarla ilgili işlevleri hızlı ve güçlü bir şekilde değiştirebilmesidir. Örneğin, 3-5

## KAYNAKÇA

1. Nazlikul H. Nöralterapi 1. Baskı. İstanbul: Nobel Tip Kitapevi; 2010
2. Weinschenk S. Neural Therapy-a review of the therapeutic use of local anesthetics. *Acupunct and Rel Ther.* 2012;1:5-9.
3. Barop H. Neuraltherapie nach Huneke aus der Si- cht der Relationspathologie Rickers. In: Dosch P. Hrsg. *Aktuelle Beiträge zur Neuraltherapie nach Huneke.* Vol. 15. Heidelberg: Haug, 1994.
4. Mermod J, Fischer L, Staub L, et al. Patient satisfaction of primary care for musculoskeletal diseases: a comparison between neural therapy and conventional medicine. *BMC Complement Altern Med.* 2008;8:33
5. Frank BL. Neural therapy. *Phys Med Rehabil Clin N Am.* 1999;10:573-582.
6. Huneke F. Unbekannte Fernwirkung der Lokalanesthesia. *Hippokrates* 1944;52 : 213-223.
7. Pischinger, Grundregulation. *Grundlagen für eine ganzheitsbiologische Theorie der Medizin.* 7. Auflage Haug, Heidelberg 1980.
8. Nazlikul H. Nöralterapi 2. Baskı. Bölüm XIV – XV S225-251 İstanbul: Nobel Tip Kitapevi; 2016
9. Nazlikul, H: Dissertation (Doktor medicinae) im Rahmen des postgradualen Universitätslehrganges für Ganzheitsmedizin –Regulationsmedizin “Neuraltherapie Naturheilverfahren, Regulationsverfahren und Herdgeschehen” von PD. Dr. med. Hüseyin Nazlikul 2010 Die Medizinische Fakultät Charité
10. Weinschenk S. Therapy with local anaesthetics-the neural therapy approach. A review. *Acupunct Rel Ther.* 2012;1:25-32.
11. Weinschenk S; Handbuch Neuraltherapie. Elsevier Urban & Fischer Verlag 2010.
12. Hollmann MW, Strumper D, Herroeder S, et al. Receptors, G proteins, and their interactions. *Anesthesiology.* 2005;103:1066-1078.
13. Hahnenkamp K, Durieux ME, Hahnenkamp A,et al. Local anaesthetics inhibit signalling of human NMDA receptors recombinantly expressed in *Xenopus laevis* oocytes: role of protein kinase C. *Br J Anaesth.* 2006;96:77-87.
14. Willatts DG, Reynolds F. Comparison of the vasoactivity of amide and ester local an-aesthetics. An intradermal study. *Br J Anaesth.* 1985;57:1006-1011.
15. Cassuto J, Sinclair R, Bonderovic M. Anti-inflammatory properties of local anesthetics and their present and potential clinical implications. *Acta Anaesthesiol Scand.* 2006;50: 265-282.
16. Reuter URM, Oettmeier R and Nazlikul H (2017) Procaine and Procaine-Base-Infusion: A Review of the Safety and Fields of Application after Twenty Years of Use. *Clin Res Open Access* 4(1)
17. M.W.Hollman; Novel local anaesthetics and novel indications for local anaesthetics; *Curr Opin Anaesthesiol;* 2001;14:741-749
18. Niesel, Hans Christoph et al.: (2003 ) Lokalanästhesie, Regionalanästhesie, Regionale Schmerztherapie DOI: 10.1055/b-0034-46290
19. Heribert Kokemohr: (2013) Praxis der therapeutischen Lokalanästhesie und Neuraltherapie, Springer-Verla ISBN: 9783642571015
20. Nazlikul H. Nöralterapi 2. Baskı. Bölüm VIII S137-160 İstanbul: Nobel Tip Kitapevi; 2016
21. Nazlikul, H. Babacan A.: Nazlikul H, Babacan A. Nöralterapi ve enjeksiyonlardaki rolü. Babacan A, editör. Ağrı ve Enjeksiyonlar. Ankara: Türkiye Klinikleri; 2019;1: p.110-117.
22. Liddle SD, Baxter GD, Gracey JH. Exercise and chronic low back pain: What works? *Pain* 2004;107:176-190.
23. Van Tulner M, Koes B, Bombardier C. Low back pain. *Best Pract Res Clin Rheumatol.* 2002;16:761- 775.
24. Barr KP, Harrast MA. Bel ağrısı. In: Braddom RL, ed (Sarıdoğan M, çeviri editörü). *Fiziksel Tip ve Rehabilitasyon.* 3. Baskı, Ankara: Güneş Tip Kitabevleri; 2010. p.883-927.

25. Chou R. Pharmacological management of low back pain. *Drugs* 2010; 70:387-402.
26. Egli S, Pfister M, Ludin SM, et al. Long-term results of therapeutic local anesthesia (neural therapy) in 280 referred refractory chronic pain patients. *BMC Complement Altern Med.* 2015;15:200
27. Karakan M, Tamam Y, Gültekin S et al. Kronik Bel Ağrılarında Nöralterapi Uygulamalarının Etkinliği. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi*, 2016; 3:1-6.
28. Atalay NS, Sahin F, Atalay A ve ark. Comparison of efficacy of neural therapy and physical therapy in chronic low back pain. *Afr J Tradit Complement Altern Med.* 2013;10:431-435.
29. Uğurlu FG. Piriformis sendromu ve lumbar disk hernisi birlikteliği olan hastanın nöralterapi ile tedavisi. *Journal of Complementary Medicine Regulation and Neural Therapy Volume*.2017;11:28-30.
30. Barbagli P, Bollettin R, Ceccherelli F. [Acupuncture (dry needle) versus neural therapy (local anesthesia) in the treatment of benign back pain. Immediate and long-term results]. *Italian Minerva Med.* 2003;94:17-25..
31. US Burden of Disease Collaborators. The state of US health, 1990-2010: burden of diseases, injuries, and risk factors. *JAMA* 2013;310:591- 608.
32. Fejer R, Kyvik KO, Hartvigsen J. The prevalence of neck pain in the world population: a systematic critical review of the literature. *Eur Spine J* 2006;15:834-848.
33. Hogg-Johnson S, van der Velde G, Carroll LJ, et al. The burden and determinants of neck pain in the general population: results of the bone and joint decade 2000-2010 task force on neck pain and its associated disorders. *Spine* 2008;33:39-51.
34. Linton SJ. A review of psychological risk factors in back and neck pain. *Spine* 2000;25:1148-1156.
35. Cohen SP. Epidemiology, diagnosis, and treatment of neck pain. *Mayo Clin Proc.* 2015 Feb;90(2):284-299.
36. Cohen SP, Hooten WM. Advances in the diagnosis and management of neck pain. *BMJ*. 2017;358:3221.
37. Vasseljen O, Woodhouse A, Bjørngaard JH, et al. Natural course of acute neck and low back pain in the general population: the HUNT study. *Pain*. 2013;154: 1237-1244.
38. Carstensen TB. The influence of psychosocial factors on recovery following acute whiplash trauma. *Dan Med J.* 2012; 59:4560.
39. Nazlıkul H. Çoklu bozucu alan kaynaklı servikal omuz sendromu. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi* 2015;9:1-4.
40. Karakan M, Öncel O, Dürer TS, et al. Servikal Distoni Etiyolojisinde Gömük Dişler ve Nöralterapi ile Tedavi. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi* 2018;12:22-25.
41. Greenberg DL. Evaluation and treatment of shoulder pain. *Med Clin North Am.* 2014;98:487-504.
42. Holmes RE, Barfield WR, Woolf SK. Clinical evaluation of nonarthritic shoulder pain: Diagnosis and treatment. *Phys Sportsmed.* 2015 Jul;43:262-268.
43. Urwin M, Symmons D, Allison T, et al. Estimating the burden of musculoskeletal disorders in the community: the comparative prevalence of symptoms at different anatomic sites, and the relation to social deprivation. *Ann Rheum Dis* 1998;57:649–655.
44. Luime JJ, Koes BW, Hendriksen IJ, et al. Prevalence and incidence of shoulder pain in the general population: a systematic review. *Scand J Rheumatol* 2004;33:73-81.
45. Rechardt M, Shiri R, Karppinen J, et al. Lifestyle and metabolic factors in relation to shoulder pain and rotator cuff tendinitis: a population-based study. *BMC Musculoskelet Disord* 2010;11:165.
46. Vecchio P, Kavanagh R, Hazleman BL, et al. Shoulder pain in a community based rheumatology clinic. *Br J Rheumatol* 1995;34:440–442
47. Green S, Buchbinder R, Hetrick S. Acupuncture for shoulder pain. *Cochrane Database Syst Rev* 2005;18:CD005319.

48. Bloom JE, Rischin A, Johnston RV, et al. Image-guided versus blind glucocorticoids injection for shoulder pain. *Cochrane Database Syst Rev* 2012;9:CD009147.
49. Kesikburun S, Tan AK, Yilmaz B, et al. Platelet-rich plasma injections in the treatment of chronic rotator cuff tendinopathy: a randomized controlled trial with oneyear follow-up. *Am J Sports Med* 2013;41:2609–2616.
50. Intramuscular injection of botulinum toxin A, which may be useful in reducing shoulder pain after stroke and in osteoarthritis of the shoulder Singh JA, Fitzgerald PM. Botulinum toxin for shoulder pain. *Cochrane Database Syst Rev* 2010;9:CD008271.
51. Uyar Köylü S, Bozkurt S, Nazlıkul H, Rotator Manşon İlişkili Omuz Ağrılarında İntaartiküler Kortikosteroid Enjeksiyonuna Kiyasla Nöralterapi Etkinliğinin Kısa Dönem Sonuçları, Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi 2018;12:1-6.
52. Özkan N, Tedaviye Dirençli Adezif Kapsüllite (Donuk Omuz) Nöralterapinin Etkinliği, Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi 2019;13:17-19.
53. Koca TT. Neuraltherapy Treatment of Shoulder Periarthritis: A Case Report. *Medicine Science* 2015;4:1979-1984.
54. Tosti R, Jennings J, Sowards JM. Lateral epicondylitis of the elbow. . *Am J Med*. 2013
55. Verhaar JA. Tennis elbow: anatomical, epidemiological and therapeutic aspects. *Int Orthop* 1994;18:263–267
56. Coonrad RW, Hooper WR. Tennis elbow: its course, natural history, conservative and surgical management. *J Bone Joint Surg Am*. 1973; 55:1177-1182
57. Amin NH, Kumar NS, Schickendantz MS. Medial epicondylitis: evaluation and management. *J Am Acad Orthop Surg*. 2015 ;23:348-355.
58. Pienimäki T, Siira P, Vanharanta H: Widespread pain in chronic epicondylitis. *Eur J Pain* 2011;15:921-927.
59. Ural FG, Öztürk TG, Nazlıkul H. Evaluation of Neural Therapy Effects in Patients with Lateral Epicondylitis: A Randomized Controlled Trial. *Ankara Med J*, 2017;4:260-266.
60. Nazlıkul H. Lateral epikondiliti olan 80 vakının Nöralterapi ve Manuelterapi ile tedavisi. *BARNAT* 2009; 3,8.
61. Christmas C, Crespo CJ, Franckowiak SC, et al. How common is hip pain among older adults? Results from the Third National Health and Nutrition Examination Survey. *J Fam Pract*. 2002;51:345–348.
62. Wilson JJ, Furukawa M, Evaluation of the patient with hip pain, *Am Fam Physician*. 2014;89:27-34.
63. Ward D, Parvizi J,Management of Hip Pain in Young Adults. *Orthop Clin North Am*. 2016 Jul;47:485-496.
64. Nazlıkul H, Ural FG, Öztürk GT, et al. Evaluation of neural therapy effect in patients with piriformis syndrome. *J Back Musculoskelet Rehabil*. 2018;31:1105-1110.
65. Denli A. Sakroiliak Eklem Disfonksiyonu. Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi. 2016;10:26-27.
66. Bunt CW, Jonas CE, Chang JG. Knee Pain in Adults and Adolescents: The Initial Evaluation. *Am Fam Physician*. 2018 Nov 1;98:576-585.
67. Janssen MJ, Viechtbauer W, Lenssen AF,et al. Strength training 486 alone, exercise therapy alone, and exercise therapy with passive manual mobilisation 487 each reduce pain and disability in people with knee osteoarthritis; a systematic 488 review. *Journal of Physical therapy* 2011;57:11-20.
68. Lawrence RC, Felson DT, Helmick CG, et al. Estimates of the prevalence of arthritis and other rheumatic conditions in the United States. Part 2. *Arthritis Rheum* 2008;58:26–35.
69. Bijlsma JW, Berenbaum F, Lafeber FP. Osteoarthritis: an update with relevance for clinical practice. *Lancet*. 2011;377:2115-2126.

70. Wesseling J, Dekker J, van den Berg WB, et al. CHECK (Cohort Hip and Cohort Knee): similarities and differences with the Osteoarthritis Initiative. *Ann Rheum Dis* 2009; 68: 1413–1419.
71. Zhang W, Doherty M, Leeb BF, et al. EULAR evidence based recommendations for the management of hand osteoarthritis: report of a Task Force of the EULAR Standing Committee for International Clinical Studies Including Therapeutics (ESCISIT). *Ann Rheum Dis* 2007; 66: 377–388.
72. Christensen R, Astrup A, Bliddal H. Weight loss: the treatment of choice for knee osteoarthritis? A randomized trial. *Osteoarthritis Cartilage* 2005; 13: 20–27
73. Zhang W, Moskowitz RW, Nuki G, et al. OARSI recommendations for the management of hip and knee osteoarthritis, part II: OARSI evidence-based, expert consensus guidelines. *Osteoarthritis Cartilage* 2008; 16: 137–162.
74. Köylü Uyar S, Bozkurt S, Nazlıkul H. Gonartrozda Nöralterapini Etkinliği. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi*. 2019;13:10-12.
75. Özkan N. Osteoartritin nöralterapi yaklaşımı ile değerlendirilmesi ve tedavisi. *Journal of Complementary Medicine, Regulation and Neural Therapy* 2016;10:16-21.
76. Sezen N. Osteoartritte nöralterapi. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi* 2014;8:31-33.
77. Mease, P. and K. Seymour, Treatment options for fibromyalgia. *Pain Pract*, 2008. 18: 26-35.
78. Queiroz, L.P. Worldwide epidemiology of fibromyalgia. *Current pain and headache reports*, 2013;17: 356.
79. Goldenberg, D.L., Multidisciplinary modalities in the treatment of fibromyalgia. *Journal of Clinical Psychiatry*, 2008; 69: 30-34.
80. Starz, T. and M. Bogt, Fibromyalgia-Its not all in my head. *The Pain Practitioner*, 2008;18: 62-71.
81. Staud, R., Chronic widespread pain and fibromyalgia: two sides of the same coin? *Current rheumatology reports*, 2009;11: 433.
82. Häuser, W., et al., Fibromyalgia. *Nature reviews Disease primers*, 2015;1:15022.
83. Goldenberg, D.L., et al., Understanding fibromyalgia and its related disorders. *Prim Care Companion J Clin Psychiatry*, 2008;10: 133-144.
84. Lichtenstein, A., S. Tiosano, and H. Amital, The complexities of fibromyalgia and its comorbidities. *Current opinion in rheumatology*, 2018;30:94-100.
85. Jay, G.W. and R.L. Barkin, Fibromyalgia. *Disease-a-Month*, 2015;3: 66-111.
86. Russell, I.J., et al., Efficacy and safety of duloxetine for treatment of fibromyalgia in patients with or without major depressive disorder: results from a 6-month, randomized, double-blind, placebo-controlled, fixed-dose trial. *Pain*, 2008;136: 432-444.
87. Chinn, S., W. Caldwell, and K. Gritsenko, Fibromyalgia pathogenesis and treatment options update. *Current pain and headache reports*, 2016 ;20: 25.
88. Mease, P.J., et al., Fibromyalgia syndrome. *The Journal of rheumatology*, 2005;32: 2270-2277.
89. Özkan N. Fibromiyalji Sendromunda Nöraltearpinin Etkinliği. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi*. 2018;12:1-5.
90. Nazlıkul H. Fibromiyalji Sendromu. *Bilimsel Tamamlayıcı Tip, Regülasyon ve Nöralterapi Dergisi*. 2014;8:1-9.