COMPLEMENTARY VERSUS CONVENTIONAL MEDICINE IN CARPAL TUNNEL SYNDROME? A CASE REPORT

Yani Shivachev^{1,3}, Denitsa Grozdeva^{2,3}, Paraskeva Mancheva^{1,3}

¹*Sector for Rehabilitation, Medical College of Varna,*

²*Department of Conservative Dental Treatment and Oral Pathology,
Faculty of Dental Medicine,*

³*University Centre of Eastern Medicine of Varna,
Medical University of Varna*

ABSTRACT

INTRODUCTION: Patients with chronic disease, including carpal tunnel syndrome more and more often face any kind of treatment (e. g. complementary medicine) and are trying to find help in any levels of health-care system.

CASE REPORT: A 54-year-old female patient who worked on a cruised ship as a confectioner visited Medical University of Varna and University Centre of Eastern Medicine of Varna with the following complaints: hyperesthesia, neuropathic pain in the areas of wrist, palm and fingers, sleep disorder, and anxiety. These symptoms aggravated at night as the pain spread towards the elbow and shoulder, which led to disability, reduced function in daily-life activities and impaired quality of life. Immobilization with orthosis was conducted. The patient disembarked in Brazil, where she underwent an examination and electroneurography (ENG) and was diagnosed with carpal tunnel syndrome. After a few unsuccessful attempts of self-medication care and negative psychological attitude towards conventional medicine, the patient searched for treatment at Medical University of Varna and University Centre of Eastern Medicine of Varna. Tinel's test and Phalen's test were positive. Diagnostic mobilization nerves tests and manual muscle testing were carried out. A complex of unconventional methods of treatment was applied to the patient.

CONCLUSION: Holistic approach to the patient along with the three dimensions of the human health are a proof that complementary medicine could be another possibility for a long-term and preventive treatment to patients with carpal tunnel syndrome. *Scr Sci Med.* 2017;49(4):79-82

Keywords: *complementary medicine, carpal tunnel syndrome, diagnosis, physical therapy*

Address for correspondence:

Yani Shivachev
Sector for Rehabilitation
Medical College of Varna
Medical University of Varna
84 Tzar Osvoboditel Blvd
9002 Varna
e-mail: qshivachevv@abv.bg

Received: September 14, 2017

Accepted: December 14, 2017

INTRODUCTION

Carpal tunnel syndrome is a group of symptoms due to compression of the medial nerve in the wrist area (1,2). This pathology is characterized by pain located in the wrist area, tingle in the first three fingers, and hand muscle hypotrophy (3). The conservative treatment, which includes drug therapy, immobilization, and physiotherapy, is very successful in patients who contact physicians on time. When the conservative medicine has run out of op-

tions, the patient needs to be operated. There is some literary evidence in favour of the operation efficiency. Regarding this, some prognostic factors are pointed out which are significant in the course of the disease: permanent symptoms, positive Tinel's test, and thenar muscle hypotrophy (4-7).

A lot of patients search help in the alternative medicine led by different reasons:

- ◆ Unsatisfied by the traditional medicine;
- ◆ Need of personal care;
- ◆ Run out of traditional drug options;
- ◆ Impaired quality of life (7-10).

The main reason for the patient to face alternative forms of treatment is their dissatisfaction with the traditional medicine.

Use of complementary medicine offers possibilities for more effective and painless methods of treatment related to stimulation of the internal biological and psychological forces of the body. There is scientific evidence of the therapeutic effect of acupuncture in carpal tunnel syndrome (11).

MATERIAL AND METHODS

Immobilization with orthosis was conducted.

A 54-year-old female patient who worked on a cruised ship as a confectioner visited Medical University of Varna and University Centre of Eastern Medicine of Varna with the following complaints: hyperesthesia, neuropathic pain in the areas of wrist, palm and fingers, sleep disorder, and anxiety. These symptoms aggravated at night as the pain spread towards the elbow and shoulder, which led to disability, reduced function in daily-life activities and impaired quality of life. She reported for muscle sore-

electroneurography (ENG) and was diagnosed with carpal tunnel syndrome. After a few unsuccessful attempts of self-medication care and negative psychological attitude towards conventional medicine, the patient searched for treatment at Medical University of Varna and University Centre of Eastern Medicine of Varna.

The following diagnostic tests were conducted: i) Tinel's test; ii) Phalen's test, and iii) manual muscle testing. We chose to test *m. abductor pollicis brevis*, *m. flexor pollicis longus* and *m. opponens pollicis* as they present with their own innervation from the medial nerve. Questionnaire WHO QOL-BREF (evaluation of quality of life) was used. Patient-centered complex of conventional and unconventional methods was applied including the following procedures: i) acupuncture (daily adjusted treatment); ii) meridian massage (triple energization, pericardium, and lungs); iii) foot reflexology (internal foot surface, area of neck and shoulder), and iv) individualized exercises (for prevention of relapses)

RESULTS

Before and after two weeks of treatment, we measured the Tinel's test, Phalen's test, manual muscle testing and quality of life with WHO QOL-BREF as indicated in Table 1. At the end of 2nd week, Tinel's test and Phalen's test were negative. We found out an increase in the total score by 23 points (total score of 92). There was a significant improvement in the following two domains: 'environment' (from 20 to 28) and 'psychological health' (from 18 to 22). The domain of 'physical health' increased by one point, which correlates to the results from the manual muscle testing - an increasing by one degree.

Table 1. Recovery and 2-week follow-up

Before		Complementary therapy (10-day-treatment course)	After	
Tinel's test	positive	Acupuncture	Tinel's test	negative
Phalen's test	positive	Meridian massage	Phalen's test	negative
Manual muscle testing	3+	Reflexology	Manual muscle testing	4++
WHO QOL-BREF	69	Individual exercises	WHO QOL-BREF	92

ness and fine motor deficiency and there was a visible muscle hypotrophy. The patient disembarked in Brazil, where she underwent an examination and

The total questionnaire score before the treatment was 69 (domains of 'physical health' - 19, 'psy-

chological health' - 18, 'social relationships' - 12, and 'environment' - 20).

DISCUSSION

The results mentioned above indicate the efficiency of our method with unconventional means of treatment with a female patient with carpal tunnel syndrome. There is literature evidence that Nivalin electrophoresis and therapeutic ultrasound are the means of choice among the conventional physical factors (12-15). In Vladeva's PhD thesis, the above mentioned physical factors have been used (16). It has been established that in 91.2% of the total population, Tinel's and Phalen's tests are negative between the 1st and 4th month after the end of treatment (16). Similar results are also achieved when hand muscle function has been examined by manual muscle testing. In our study, we combine means and methods of complementary and conventional medicine and Tinel's and Phalen's tests are negative already in the end of 14th day during the process of treatment. These early therapeutics results in our patient are, probably, due to the individually applied complex therapy which combines the best of both approaches. Some other authors, who offer complementary medicine, have reached similar rapid results. After the application of acupuncture only in the treatment of carpal tunnel syndrome, there are positive outcomes during the 4th week (11). It occurs that acupuncture is responsible for the rapid effect of the treatment, while conventional physical therapy prolongs the effect in time. The unconventional methods such as reflex therapy and acupuncture achieve evidence-based therapeutic results. Complementary medicine provides opportunities for applying the patient-centered and holistic approaches which aims at improving the quality in the three spheres of life.

The dynamics in quality of life (as a total score from all the domains) demonstrates improvement in holistic health in this particular clinical case. The significant improvement in the domain of 'environment' results in the recovery of the working capacity under the specific conditions of being a confectioner. We wish we could follow-up the achieved results with this patient, so we have invited her for a post examination at the University Centre of Eastern Medicine of Varna after her return in Bulgaria.

Our clinical practice shows that applying traditional physical factors in neuropathic pain relates to risks of deterioration of the symptoms. Complementary medicine gives opportunities to treat distal acupuncture points. This reduces the risk of exacerbation of local neuropathic pain and, at the same time, avoids eventual side effects caused by unconventional medicine.

CONCLUSION

These facts pose the question about a future investigation with patients presenting with carpal tunnel syndrome which could more precisely confirm or reject the possibilities of a similar kind of integrated therapy.

REFERENCES

1. Katz JN, Larson MG, Fossel AH, Liang MH. Validation of a surveillance case definition of carpal tunnel syndrome. *Am J Public Health*. 1991 81(2):189-93.
2. Palmer KT, Harris EC, Coggon D. Carpal tunnel syndrome and its relation to occupation: a systematic literature review. *Occup Med (Lond)*. 2007;57(1):57-66. doi: [10.1093/occmed/kql125](https://doi.org/10.1093/occmed/kql125).
3. Ibrahim I, Khan WS, Goddard N, Smitham P. Carpal tunnel syndrome: a review of the recent literature. *Open Orthop J*. 2012;6:69-76. doi: [10.2174/1874325001206010069](https://doi.org/10.2174/1874325001206010069).
4. De Kleermarker FGCM, Meulstee J, Claes F, Kasius KM, Verhagen WIM. Treatment outcome in patients with clinically defined carpal tunnel syndrome but normal electrodiagnostic test results: a randomized controlled trial. *J Neurol*. 2017;264(12):2394-400. doi: [10.1007/s00415-017-8637-2](https://doi.org/10.1007/s00415-017-8637-2).
5. Franke TP, Koes BW, Geelen SJ, Huisstede BM. Do patients with carpal tunnel syndrome benefit from low-level laser therapy? A systematic review of randomized controlled trials. *Arch Phys Med Rehabil*. 2017 Jun 16. doi: [10.1016/j.apmr.2017.06.002](https://doi.org/10.1016/j.apmr.2017.06.002).
6. Burton CL, Chesterton LS, Chen Y, van der Windt DA. Clinical course and prognostic factors in conservatively managed carpal tunnel syndrome: a systematic review. *Arch Phys Med Rehabil*. 2016;97(5):836-52. doi: [10.1016/j.apmr.2015.09.013](https://doi.org/10.1016/j.apmr.2015.09.013).
7. Thomson P, Jones J, Browne M, Leslie SJ. Psychosocial factors that predict why people use complementary and alternative medicine and continue

- with its use: a population based study. *Complement Ther Clin Pract.* 2014;20(4):302-10. doi: 10.1016/j.ctcp.2014.09.004.
8. Thomson P, Jones J, Evans JM, Leslie SL. Factors influencing the use of complementary and alternative medicine and whether patients inform their primary care physician. *Complement Ther Med.* 2012;20(1-2):45-53. doi: 10.1016/j.ctim.2011.10.001.
 9. McFadden KL, Hernández TD, Ito TA. Attitudes toward complementary and alternative medicine influence its use. *Explore (NY).* 2010;6(6):380-8. doi: 10.1016/j.explore.2010.08.004.
 10. Astin JA. Why patients use alternative medicine: results of a national study. *JAMA.* 1998 279(19):1548-53.
 11. Khosrawi S, Moghtaderi A, Haghighat S. Acupuncture in treatment of carpal tunnel syndrome: A randomized controlled trial study. *J Res Med Sci.* 2012;17(1):1-7.
 12. Bakhtiaty AH, Rashidy-Pour A. Ultrasound and laser therapy in the treatment of carpal tunnel syndrome. *Aust J Physiother.* 2004;50(3):147-51. doi: org/10.1016/S0004-9514(14)60152-5.
 13. Piazzini DB, Aprile I, Ferrara PE, Bertolini C, Tonali P, Maggi L, et al. A systematic review of conservative treatment of carpal tunnel syndrome. *Clin Rehabil.* 2007;21(4):299-314. doi: 10.1177/0269215507077294.
 14. Tal-Akabip A, Ruston A. An investigation to compare the effectiveness of carpal bone mobilisation and neurodynamic mobilisation as methods of treatment for carpal tunnel syndrome. *Man Ther.* 2000;5(4):214-22. doi: 10.1054/math.2000.0355.
 15. Vladeva E, Nestorova V. The efficiency of a complex of physical factors in conservative treatment of carpal tunnel syndrome evaluated by using the visual analogue scale and Boston carpal tunnel syndrome questionnaire. *Scr Sci Med.* 2014;46(2):43-7.
 16. Vladeva E. The role of physical factors in the conservative treatment of carpal tunnel syndrome. PhD thesis. Medical University of Varna, 2015 (in Bulgarian).