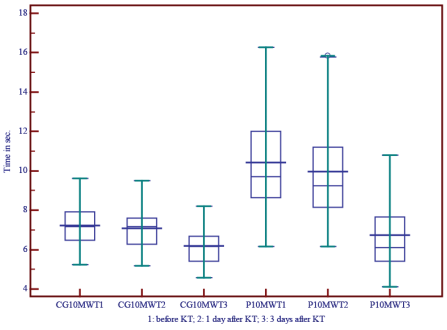
AB1412-HPR CHANGES OF GAIT SPEED AND PAIN AFTER APPLYING KINESIOTAPE ON QUADRICEPS FEMORIS MUSCLE IN PATIENTS WITH KNEE OSTEOARTHRITIS

Klejda Tani, Irena Kola, Vjollca Shpata, Fregen Dhamaj. *University of Medicine, Faculty of Medical Technical Sciences, Tirana, Albania*

Background: Knee osteoarthritis is a chronic degenerative disease, known as the most common cause of difficulty walking in older adults and subsequently is associated with slow walking. Functional decline, increased risk of falls and presence of pain are, in many studies, related to the muscle weakness caused by osteoarthritis especially weakness of the quadriceps muscles. Pain is very noticeable while walking in rugged terrain, during ascent and descent of stairs, when changing from sitting to standing position as well as staying in one position for a long time. Many studies have shown that the strength of the quadriceps femoris muscle can affect gait, by improving or weakening it. Kinesio Tape is a physiotherapeutic technique, which reduces pain and increases muscular strength by irritating the skin receptors.
Objectives: The aims of this study was firstly to verify if the application of Kinesio Tape on quadriceps femoris muscle decreases time needed to accomplish the 10 meter walk test in patients with knee osteoarthritis and also in subjects without knee osteoarthritis. Secondly if applying Kinesio Tape on quadriceps femoris muscle reduces pain while walking only in patients with knee osteoarthritis.
Methods: In this study we observed the change of gait speed with the help of the 10-meter walk test before, one day and three days after the application of Kinesio Tape in quadriceps femoris muscle. We compared the results of the gait speed in two groups. In the first group, the Patients group, participated 102 out-patients with a clinical diagnosis of primary knee osteoarthritis, while in the second group, the Control group, participated 73 subjects with a main excluding criterion a clinical diagnosis of primary knee osteoarthritis. Secondly, we observed the change of pain, while walking for 10 meters at normal speed for the Patients group, before, one day and three days after the application, with the help of Numerical Pain Rating Scale - NRS.



Results: Our results indicated that there was a significant increase of gait speed in both groups while walking for 10 meters three days after application of Kinesio Tape on quadriceps femoris muscle. However there was not a significant change one day after the application of Kinesio Tape compared before its application in both groups. Also, there was a significant reduction of pain level 1 and 3 days after application of Kinesio Tape, compared to the level of pain before its application.
Graphic 1: Comparison of values of 10-meter walk test (10MWT) in the control group (CG) and in the patients group (PG), before Kinesio Tape (KT) application (1), 1 day after KT application (2) and 3 days after KT application (3)
Conclusion: Our results indicated that there was a significant decrease of time needed to accomplish the 10 meter walk test and also a significant decrease of pain while walking for 10 meters. Kinesio Tape is a technique that can be used especially when changing walking stereotypes is a long term goal of the treatment.

REFERENCES

[1] Sharma L. Proprioception in osteoarthritis. In: Brandt KD, Doherty M, Lohmander LS, editors. Osteoarthritis. 2nd ed. Oxford: Oxford University Press; 2003. pp. 1727.
[2] Ayis S, Ebrahim S, Williams S, Juni P, Dieppe P. Determinants of reduced walking speed in people with musculoskeletal pain. J Rheumatol. 2007;34 (9):190512. PMid:17696267.
[3] Zeni JA, Jr, Higginson JS. Differences in gait parameters between healthy subjects and persons with moderate and severe knee osteoarthritis: a result of altered walking speed? Clin Biomech (Bristol, Avon) 2009;24:3728. https://doi.org/10.1016/j.clinbiomech.2009.02.001. PMid:19285768. PMCid:PMC2715920.
[4] Vercelli S, Sartorio F, Foti C, Colletto L, Virton D, Ronconi G, et al. Immediate effects of kinesiotaping on quadriceps muscle strength: a single-blind, placebo-controlled crossover trial. Clin J Sport Med. 2012;22(4):31926. https://doi.org/10.1097/JSM.0b013e31824c835d. PMid:22450591.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.1573

AB1413-HPR FACTORS AFFECTING ACTIVITIES OF DAILY LIVING IN WOMEN INDIVIDUALS WITH SCLERODERMA

Serap Acar[1], Nazenin Hande Sezgin[2], Sema Savci[1], Aylin Tanriverdi[2], Buse Ozcan Kahraman[1], Aydan Koken Avsar[3], Ahmet Merih Birlik[3]. *[1]Dokuz Eylul University, School of Physical Therapy and Rehabilitation, Izmir, Turkey; [2]Dokuz Eylul University, Graduate School of Health Science, Izmir, Turkey; [3]Dokuz Eylul University, Division of Rheumatology, Department of Internal Medicine, Faculty of Medicine, Izmir, Turkey*

Background: Scleroderma is a multisystemic chronic disease with hand involvement in many patients and responsible for marked disability. Patients with scleroderma have reduced ability to perform activities of daily living (ADL) and several factors may be associated with difficulties in ADL and impairment of upper extremity functions.
Objectives: Aim of this study was to indicate the relationship among activities of daily living and pain, fatigue, disease severity, upper extremity strength and functional disability in patients with scleroderma and to identify the factors affecting activities of daily living in individuals with scleroderma.
Methods: Thirty five women individuals with scleroderma with mean age 56.46 10.45 were included into the present study. The activities of daily living was evaluated with Milliken ADL questionnaire, pain with visual analog scale (VAS), fatigue with fatigue severity scale (FSS), disease severity with modified Rodnan score (MRS), upper extremity strength with handgrip strength and functional disability with Health Assessment Questionnaire (HAQ). The relationships among the variables were analyzed by the Spearman correlation test. Correlation coefficients between Milliken ADL and other variables were determined by linear regression. The statistics were analyzed by SPPS 23.0 version.
Results: The Milliken ADL did not significantly correlated with MRS and VAS ($p > 0.05$), whereas Milliken ADL did significantly correlated with handgrip strength ($r = 0.680$, $p = 0.001$), FSS ($r = -0.729$, $p = 0.001$), HAQ ($r = -0.867$, $p = 0.001$). Additionally, handgrip strength, fatigue severity scale and HAQ were significant and independent determinants for activities of daily living, accounting for 95.0% of the variance in Milliken ADL in patients with scleroderma.
Conclusion: The findings of this study show that scleroderma patients daily life is affected by the disease at different levels. Impaired hand function and difficulties in the performance of ADL are common in scleroderma and may influence an individuals functional disability. Therefore, provide therapeutic interventions at the optimal time it is important to follow the development of these factors in the early stages of the disease.

REFERENCES

[1] G. Sandqvist, R. Hesselstrand & K. Eberhardt (2009) A longitudinal follow up of hand involvement and activities of daily living in early systemic sclerosis, Scandinavian Journal of Rheumatology, 38:4, 304-310, DOI: 10.1080/03009740802695466
[2] Kemal EROL, Kevser GOK, Gizem CENGIZ and Salih OZGOCMEN Hand functions in systemic sclerosis and rheumatoid arthritis and influence on clinical variables International Journal of Rheumatic Diseases 2018; 21: 249252

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.6981

Ann Rheum Dis: first published as 10.1136/annrheumdis-2019-eular.6981 on 27 May 2019. Downloaded from http://ard.bmj.com/ on February 20, 2025 at Acibadem Universitesi Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies.