

The treatment of chronic cervical pain of different origin by K-Active Therapy

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Introduction

The cervical pain is a common complain at adults. In the background this disease there are several causes. Mainly it affects people over 45, but it can occur every age. It is rather frequent at those who are involved in physical work and sedentary work.

The improper/wrong posture, long-lasting work can enhance the symptoms. The prevalence of the cervical pain is increasing with aging, it can attain the 70%. It appears more frequently at women.

The cervical vertebrae have got numerous special anatomy attributes. It makes many sided movements possible, because it is the most mobile regio of the spine. The cervical region with its 37 joints is the most complicated articular system of the body. The spine cord with the ligaments and muscles protects exiting nerve roots, vertebral arteries and is responsible of the head.



According to International Association for the Study of Pain (IASP) cervical pain can have 60 different kinds of causes therefore every patient requires correct, exact diagnosis, which is not the easy task.

The origin of the pain can be radiating, musculoskeletal and neurogen. It can radiate toward the head, shoulders, back, chest and the upper extremities.

There are some risk factors in the development of the disease: the risk of regular sedentary work, the cervical osteoarthritis, degenerative disc distortion, traumatic episodes, smoking, inadequate social and economic conditions and the regular stress.

Results of neck pain could be divided to many different ways:

1. The reason of a cervical pain may be acute between many people f.e.:

- Myalgia, disc hernia, osteoarthritis, traumatical or pathological vertebra fracture, angina pectoris, myocardial infarction.

2. The reasons of a chronic cervical pain may be f.e.:

- Chronic myalgia, fibrositis, discopathia, spondylosis, osteoarthritis, tumours (rarely primer, often metastasis).

3. Suboccipitalis headache f.e.

- Neuralgia, dislocation of atlantoaxialis joint.

4. Illnesses causing painless, cervical stiffness, entailing a mild pain f.e.

- Spondylitis ankylopoetica, hyperostosis of vertebra.

The facts causing cervical pain can be divided different ways: the 1st steps to determine the diagnosis is the general two directions cervical X-ray picture. The bone scintigraphy can be used to detect metastasis and inflammation. The MRI and CT can show the structures more precisely. Doppler ultrasound examination can be important for the diagnosis.

We used the Kinesiology taping technique which is a very versatile, non-invasive, special therapy. It is not a frequently used method in the traditional medical treatment. Of course it isn't a marvel method, but -if you have correct knowledge and you use it with due attention- it can be an excellent complementary therapy for the medical experts.

The Kinesiology Taping method belongs to the family of taping which is a functional bandage.

The original kinesiology tape was developed by Dr. Kenzo Kase with the consent of Nitti Denko in about 1970.

This method can activate the process of self treatment of the body, because it can increase the neuromuscular and neurosensory system functions, without chemical-, pharmacological effects.

The K-Active Therapy consists of the K-Active tape (we call it tape) and the method.

This tape, which is elastical, skin friendly and water repellent consists of a cotton material with glue. It can increase the circulation of blood and lymph where the tape is placed on the skin. It can have micromassage effect to the skin and the underlying skin tissues and activate the proprioceptors hereby the central nervous system too.



Using of elastic tape hasn't had any known side-effects, but in the following cases its usage is not advisable:

- Open wounds untreating scars
- Eczema
- Known acryl-allergy (to glue)
- Parchment-like skin
- Area of connective tissue of sacrum in the 1st trimester

Before the therapy we need to know whether the patient takes anticoagulants or not. The tape can lift the skin causing a little haemorrhage in it. The cardiac patients, who had tape sometimes developed pruritus and nettle-rash on the places of tape after wearing it 2-3 days. We have chosen this research field, because we experienced, that number of inpatients and outpatients from our department who suffered from neck pain is rather high.

They haven't had their problem treated, rather they endured the pains, decreasing ROMs (range of movements / range of motions). These people couldn't imagine such a simple treatment, which is quick and effective at the same time, and they can save time for that.

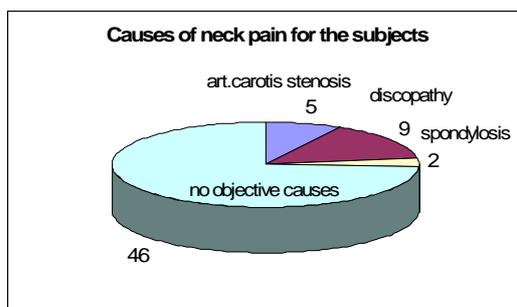
The Kineziology taping technique (mainly complementary treatment) seems to be time saving, and lowly cost treatment without pharmacon, agents, side effects.

We can reach quick results to relieve the symptoms of neck pain so we could enhance the satisfaction of patients. We tried to prove these statments in our research.

Methods:

The study were randomized, prospective and controlled. We would have studied 71 persons, but only 65 persons were suitable for our criterions. Those who took part in the research they were inpatients and outpatients of cardiology and internal medicine departments. The patients had manual, cervical ultrasound and Doppler examinations and in addition two sides cervical X-ray pictures were taken by the doctors. We informed the patients about the examinations and the special therapies. They signed the consent paper before the research.

There were 21 men and 41 women. The average age was 51,56 years.



The basic condition of participating in the research was the subjective chronic pain complain of cervical regio, lasting at least for 6 months.

Objective causes of cervical pain couldn't be proved in 46 cases, but it could be proved in 16 cases: arteria carotis stenosis was 5, discopathy was 9 and spondylosis was 2 cases.

Every patient had cervical pain and/or decreasing ROMs and 6 of all subjects had diagnosis of vertebrobasilar

insufficiency (VBI).

Excluding diagnoses from research were: gross dementia (2 persons), fibromyalgia (1 person), serious arteriosclerosis (2 persons), advanced discopathia (1 person), cervical vertebra compression in the anamnesis (1 person), spondylolysthesis between CI-Th. I., malignant tumour (1 person).

During the research (4-7 days) the patients were not allowed to take painkillers, anti-inflammatory medicines or other things having similar effects.

Data of all examinations and treatments were fixed by questionnaire method in every occasion. We applied the same treatments four times a 7 day period. We didn't give any instructions to the patients and they weren't allowed to change their daily routine.

Steps of the research:

On the 0th occasion (it is the same as the 1st treatment) we took their personal data, the anamnesis and the Questions part of the questionnaire. For example, we asked about the exact place of the pain, the 1st and usual appearance of the pain and its frequency.

During all treatments the SOAP Note (an acronym for subjective, objective, assessment, and plan) have taken. We marked measure of pain of the starting and relieving positions in the VAS. (VAS is a 10 centimetre long scale of 10 degrees. The 0th point means: no pain, the 10th point means: the pain is unbearable.)

After that, the active range of movements and the degree of pains were measured. The ROMs were measured in centimetre. The degrees of pains were marked in the VAS. After these, the compression and distraction special tests were used. The results of Questions and the special tests parts served to prove that the patients groups were homogen.

We measured the ROM in that way:

Flexion: distance of incisura jugularis and mentum.

Lateralflexion: distance of mentum and peak of acromion.

Rotation: distance of mastoid process and peak of acromion

Extension: distance of incisura jugularis and mentum

The patients were divided in 3 different groups:

Group I. (13 subjects): the treatment was the Swedish massage and the stretching technique of the cervical regio. We applied massage cream without agents (for example: muscle relaxing agents). Under the stretching both sides of the sternocleidomastoid muscle, upper part of the trapezius muscle and the levator scapulae muscle were treated by manual passive stretching technique just once, till 20-30 seconds per muscle.

Group II. (40 subjects): the 1st treatments were the Swedish massage and the manual passive stretching technique of cervical regio. The second treatment was the K-Active Therapy. The best applications of tapes were tested by subjective body sensations. Before the applications the skin was cleaned by alcohol. The therapies were special and individual. If it was necessary we shaved off that part of the body.

Group III: (9 subjects): We tested the best position of tape with a special method. Then we degreased and depilated the skin and we applicated the tape.

In the group III. there are fewer patients than in the other groups, because taping technique wasn't so well-known and just a few patients undertook to come and to fill in our questionnaires 4 times in 7 days.

We applied classical Swedish massage. It belonged to the oldest treatments and it could reduce aches by mechanical stimulates. We applied manual passive stretching technique just once to the treatment. This was preceded by the Swedish massage of the necessary region, which took about 10 minutes long.

We have made a scale which was used in all three groups at the ends of treatments. By this scale we wanted to know subjective changes. This is a 10 cm long line, its values range from -5 to +5. The meaning of -5: aches are unbearable after the treatment. Values from -5 to 0: aches are worse after the treatment then before the treatment. The meaning of 0: there wasn't any changes. Values from 0 to +5: aches were better after the treatment then before. Meaning of +5: Aches and symptoms stopped (f.e. sense of disharmony in the cervical region).

	Group I.	Group II.	Group III.
Applied treatments	Swedish massage and Manual passive stretching	Swedish massage and Manual passive stretching and K-Active Therapy	K-Active Therapy

Treatments took 20 minutes long in every occasion.

In our study we used K-Active tape of Nawa Hungary Kft. We applied muscle-, ligament-, fascia- and correcture technique and the cross tape. It was very important to make the tests of tapes before applicated it. Without tests the treatment isn't individual and we can do harm with a wrong technique. (F.e. if we stretch a tissue which will be overstretched.)

Results:

Our results were summarised according to 5 different considerations. They are the following:

1. Changes of VAS in starting position:

In all 3 groups the most significant improvent was experianced after the 1st treatment. The improvement measure in VAS was 57,38% in the group I., it was 53,1% in the group II. and it was 60,00% in the group III.

The improvement was gradual from the 1st treatment to the 4th. At the last (4th) examination we measured better results by 83,61% in the group I., by 81,42% in the group II. and by 92,00% in the group III. By the end of treatments the neck pain in starting position stopped in all 3 groups.

2. Changes of VAS during the movements:

In the group I. pains of the patients diminised gradually. After the 1st treatment they felt less pain during the movements by 16,9 %. This tendency continued by further treatments. At the last examination we measured less pain by 46,32% compared to 0th measurement (so before 1st treatment). Improvement was continued in the group II. too, because the pain reducing was 25,11% after the 1st treatment. The results of last measurment was better by 56,23% compared to 1st treatment. We experienced the most significant pain reduction in the group III., because after the 1st treatment the result was better by 71,85% compared to the starting position and after the 4th treatment the average of improvement was 82,21%.

3. Changes of range of movements:

Examining range of movementes changing we experienced the followings:

In the group I. improvement was continues, after the 1st treatment measurements data were better by 6,47%. At the last treatment the measured improvement was 13,37%. These results didn't depart from results of group II. Here after the 1st treatment the developement was 6,21% and after the last treatment was 13,23%. In the group III. the range of movement's developement lagged in small measure behind other groups. After the 1st treatment improvement was 4,22%, after last (the 4th) it was 11,32%.

4. Summary of subjective scale

Group I.: judgements of patients about their conditions of cervical region were better by 20,9% after the 1st treatment. After 2th treatment their subjective judgements were getting significant worse compare to the 1st. It was 16,42%. After the last treatment improvement was 22,39% compared to the 1st.

Group II.: We experienced improvement was continuous in this group. After the 1st treatment we measured 9,75%. After the 2th improvement was 0,98%, but compared to the 0th improvement was 10,3%. After the last treatment it was 32,68% compared to the 1st.

Group III.: after 1st treatment the patients felt significantly better, that was 45,83%. We could observed a short-time decline of condition after 2th, which was 12,5%, but after the last treatment improvement was 50,00% compared to the 1st.

5. Subjective evaluation of patients of group II. and III. after the tape application at the end of the treatments:

„I have more and more painless neck movements.”

„My pain diminished.”

„My neck is more loosed.”
 „I don't feel any change.”
 „The pain was relieved in my neck.”
 „I feel better.”
 „I sit more easily in my working place all day.”
 „It has a tonic effect.”
 „I feel warm and I feel tingling sensation.”

In the group I. and II. more patients had short headache after the treatment what was probably caused by Swedish massage.

About 50-50% of patients felt tape refreshing or warming after the application.

We compared changes of 0th measurement with the changes of 3rd one (so 1st treatment with 4th one). 15 different parameters were given in centimetre or in unit of VAS. Changes were expressed in percent, all changes had a positive direction. We evaluated the data of the chart in the discussion.

		Group I.	Group II.	Group III.
Starting position (sitting straight)	VAS	83,61 %	81,42 %	92,00 %
In resting position (lying on back)	VAS	100,00	100,00	100,00
Flexion	cm	26,36	34,88	25,263
	VAS	67,65	80,74	92,593
Lateralflexion left	cm	8,0	10,94	6,356
	VAS	56,25	36,84	83,333
Lateralflexion right	cm	16,34	11,56	11,688
	VAS	29,58	33,09	72,727
Rotation left	cm	14,89	12,24	16,105
	VAS	20,0	54,55	76,923
Rotation right	cm	16,58	12,84	8,4
	VAS	48,48	54,7	84,848
Extension	cm	7,07	12,53	9,032
	VAS	56,00	77,51	82,857
Summary of subjective scale		22,39	32,68	50,00

In the summary of values we didn't experience deteriorated condition at the group level.

In the examination there were occasions when the parameters were getting worse. We summarized the deterioration of condition values, according to the treatments and their average value was the following:

In Group I. 7 patients were concerned (46,67%): Centimetre of lateralflexion left were getting worse in 2 occasions 1,75cm, VAS was getting worse in 1 occasion 2 units. Lateralflexion right were getting worse in 2 occasions 0,5 cm and VAS was getting worse in 1 occasion 0,5 unit. Extension was getting worse in 3 occasions 2,17 cm.

In Group II. 8 patients were concerned (20,51%): Lateralflexion left was getting worse in 1 occasion 1,5 cm. Lateralflexion right was getting worse in 2 occasions 2 cm. Rotation left was getting worse in 2 occasions 2 cm. Extension was getting worse in 2 occasions 2,25 cm. Flexion was getting worse in 3 occasions 0,75 cm.

In Group III. 1 patient was concerned (11,11%): Lateralflexion left was getting worse 0,5 cm.

Discussion:

According to our experiences the reduction of aches wasn't connected unambiguously with increase of range of motions. We didn't make any examinations about threshold of pain.

Changes in the ranges of movements were varied among groups. Rotation right increased to the highest degree in the group III. and there was the highest pain reduction too. Flexion, lateralflexion left and

extension had the highest increase in the group II., but the group III. had more significant pain reduction. Lateral flexion right and rotation right had the highest increase in the group I., but the pain was reduced to the highest degree in group III.. At 0th. measure (so before 1st treatment) lateral flexion left showed higher decrease in ROM than the right.

Relying on our scale the patients of group III. felt their condition to the best.

In the group I. lateral flexion and rotation to the right side showed the highest increase of ROMs compared to the other groups.

In the group II. flexion, lateral flexion left and extension developed to higher degree compared to other groups.

Summerizing all data, group III. was the most effective. We experienced the highest improvement from our 15 measured data in 10 cases, because in this group was the most significant pain reduction.

We can claim from our summary that K-Active tape has a prompt analgetic influence and this is more significant than the Swedish massage and the manual passive stretching together. By using tape we can reach a high degree of pain reduction with even the 1st treatment too, but increase of ROMs were significantly higher at the effect of stretching and Swedish massage together.

Conclusion:

By using kinesiology taping technique we can reach fast and efficient result in the treatment of neck pain. We think it is a time and energy saving method, so we can fit into our therapies applied up to this time. It is time saving, because you can applicate it in a few minutes. It's energy saving, because you don't need any high manual skills. But apply of method requires a correct consideration. Usage of tape is expenses sparing, because it doesn't need changing every day in general. We experienced that adhesion of the tape can last for 3-4 weeks after the application. It can help to improve compliance of patient by its prompt analgetic effect.

Abstract 1:

Introduction:

The cervical pain has been a common complaint today due to the inactive lifestyle, which makes the everyday life difficult many times. The aim of our research is to prove that there is a method without any side effects and at the same time it provides an efficient solution to this problem. We examined Kineziology Tape efficiency in the treatment of the cervical pains.

Methods:

We digested the examination data of 62 patients from general internal medicine and –cardiology profile departments, and from departments of outpatient clinic specialised in cardiology. The average age was: 51,56 years.

Three various groups were formed to three different methods to reach the decrease of pain and the increase ROMs. We applied 20 minute treatments one by one. We fixed the examined data with the help of questionnaires.

The range of motion (in a centimetre) and the change of the pain (on Visual Analogue Scale –VAS-), and we analysed the subjective assessment of the current state on a scale(-5 - + 5) prepared by us.

In the group I. the Swedish massage and manual passive stretching, in the group II., the Swedish massage and manual passive stretching with the K-Active Therapy, at the group III.. only the tape was applied .

We compared the effects of the massage and stretching with the results achieved by the tape.

Results:

The improvement in a range of movement between the first and the last treatments:

In the group I. 14,87 %, that is 1,422 cm, in the group II. 15,83%, that is 1,5188 cm and in the group III. 12,8 % that is 0, 944 cm was experienced.

The decrease of the pain between the 1st and the 4th treatments based on the VAS:

In the group I. 46,32 %, in the group II. 56,23 % and in the group III. 82,21 % was experienced. The improvement of subjective assessment between the 1st and the 4th treatments on the basis of our own scale: In the group I. 22,39 %, in the group II. 32,68 % and in the group III. 50,00 % was experienced.

Discussion:

Based on our results we can claim that the tape has a fast, pain reducing effect. Comparing our results with those of the Swedish massage and the manual passive stretching we could experience a rather significant difference. Using the tape – already after the 1st treatment -we could see a significant pain decrease. In case of the range of movement, we could achieve significantly better results with applying the K-Active Therapy than with the Swedish massage and the manual passive stretching.

Conclusion:

Fast and efficient results can be reached in the treatment of the cervical pain with the technique of kinesiology taping. It is a time - and energy saving method, thus it can easily be matched in our cascade world. Its fast and prompt effect can help the patient to accept the treatment and its continue and it enhances the compliance of patients.

Abstract 2:

Introduction:

The cervical pain has been a common complaint today due to the inactive lifestyle. We examined K-Active Therapy efficiency in the treatment of the cervical pains.

Methods:

Three various groups were formed to three different methods to reach the decrease of pain and the increase ROMs. We fixed the examined data with the help of questionnaires. Research lasted 4-7 days.

Results:

The improvement in ROM between the 1st and the 4th treatments:

In the group I. 14,87 %, that is 1,422 cm, in the group II. 15,83%, that is 1,5188 cm and in the group III. 12,8 % that is 0,944 cm was experienced.

The decrease of the pain between the 1st and the 4th treatments based on the VAS:

In the group I. 46,32 %, in the group II. 56,23 % and in the group III. 82,21 % was experienced. The improvement of subjective assessment between the first and the last treatments on the basis of our own scale: In the group I. 22,39 %, in the group II. 32,68 % and in the group III. 50,00 % was experienced.

Discussion:

Based on our results we can claim that the tape has a fast, pain reducing effect. Using the tape – already after the 1st treatment -we could see a significant pain decrease. In case of the range of movement, we could achieve significantly better results with applying the K-Active Therapy.

Conclusion:

Fast and efficient results can be reached in the treatment of the cervical pain with the K-Active Therapy. It is a time - and energy saving method.