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## Quality of Life in Patients after Lumbar Thermolession

### Jakość życia u chorych po termolezjach lędźwiowych

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#### Abstract

**Introduction.** One of the methods of treating lumbago coming from joints of the articular origin are thermolessions of intervertebral joints. Thermolessions are aimed at damaging the paracentral shoulder of the dorsal branch of lumbar roots, innervating ill joints.

**Aim.** The aim of this work was to assess the quality of life and the level of pain in patients after lumbar thermolessions within a six-month observation period.

**Material and Methods.** 30 patients subject to thermolession treatments of intervertebral joints in the lumbar section were analysed. The level of pain was being assessed on the VAS scale (Eng. Visual Analogue Scale) and the quality of life with the Oswestry questionnaire before the surgery, on the first day after the surgery, after the first month, three months and after six months. 20 questionnaire forms which were subject to further analysis were returned.

**Results.** On the basis of the analysis of the research conducted, there was noted a reduction of pain intensity as well as of the degree of disability expressed on the VAS and Oswestry Scales present in the early and late period after lumbar thermolession.

**Conclusions.** Lumbar thermolession is an effective method of treating the lumbago pain of the articular origin and reducing disability in patients in the early and late period. (JNPN 2016;5(2):76–80)

**Key Words:** pain, VAS scale, thermolession

#### Streszczenie

**Wstęp.** Jedną z metod leczenia bólu lędźwiowego pochodzenia stawowego są termolezje stawów międzykręgowych. Termolezje mają na celu uszkodzenie ramienia przyśrodkowej gałęzi grzbietowej korzeni lędźwiowych, unerwiającego chore stawy.

**Cel.** Celem pracy była ocena jakości życia i poziomu bólu u pacjentów po termolezjach lędźwiowych w półrocznym okresie obserwacji.

**Materiał i metody.** Analizie poddano 30 kolejnych pacjentów poddanych zabiegom termolezji stawów międzykręgowych w odcinku lędźwiowym. Oceniano poziom bólu w skali VAS (ang. *Visual Analogue Scale*) oraz jakość życia za pomocą kwestionariusza Oswestry przed zabiegiem oraz w pierwszym dniu po zabiegu, po pierwszym miesiącu, trzech miesiącach i po pół roku. Zwrócono 20 ankiet, które poddano dalszej analizie.

**Wyniki.** Na podstawie analizy przeprowadzonych badań stwierdzono zmniejszenie nasilenia odczuwanego bólu i niepełnosprawności wyrażone w skalach VAS i Oswestry utrzymujące się w okresie wczesnym i późnym po termolezji lędźwiowej.

**Wnioski.** Termolezja lędźwiowa jest skuteczną metodą leczenia bólu lędźwiowego pochodzenia stawowego oraz zmniejsza niepełnosprawność pacjentów w okresie wczesnym oraz późnym. (PNN 2016;5(2):76–80)

**Słowa kluczowe:** ból, skala VAS, termolezja

## Introduction

According to the International Association of Studying Pain (IASP) pain is defined as unpleasant, sensory and emotional experience accompanying the existing or threatening tissue damage or referring to such damaging. Pain is a complex phenomenon and accompanies almost every illness, triggering numerous reactions which weaken defensive mechanisms of the organism. Pain occurs as a result of irritating nerve endings of the nociceptive arrangement by strong incentives which can cause injuring of tissues. If pain complaints last longer than three months, then we deal with chronic pain. All patients suffering from chronic pain feel similar mechanisms causing lowering of the quality of life i.e. physiological, psychological and social disorders. They depend on the duration of pain and on the degree of its intensity, however they do not depend on the reasons for the occurrence of pain [1–3].

Taking into account great suffering and changes concerning all aspects of the life of patients with chronic pain, such pain requires comprehensive and multidirectional proceedings, often with applying not only standard medicines, but also invading methods and techniques [4–7].

Thermolesion is a modern invading procedure of pain healing which is applied in the case of the patients, with whom other, noninvasive methods of treatment were not successful.

The treatment consists in sinking the needle (an electrode), under X-ray control, into the area of the nerve which is supposed to be subject to thermolesion.

The position of the electrode additionally checked through the motor stimulation, i.e. observation of the motion after the stimulation of movement which is an observation of the activity of moving after stimulation with electricity with the frequency ranging 2–5 Hz, and the sensory stimulation with electricity with the frequency ranging 50–100 Hz.

After making sure that the electrode is placed correctly, the due treatment of the neurodestruction is performed. It is obtained by providing the aforementioned electricity for the period of 60–120 seconds which rises the temperature up to 60–80°C [8,9].

Treatment by thermolesion is not applied in the course of a disease at its acute stage and immediately after it subsides. After heart attack or stroke a period of approximately three months should pass. Advanced age does not prevent applying this sort of treatment. Thermolesion does not help in the case of cancers with numerous metastases or when the nerve tissue is injured and its functioning is disturbed.

The aim of this work was to assess the quality of life and the level of pain in patients after lumbar thermolesions within a six-month observation period.

## Material and Methods

The research was conducted at the Clinic of Neurosurgery at the 10th Military Clinical Hospital with the Polyclinic in Bydgoszcz. The studies included a 30-person group of patients qualified for the treatment by thermolesion of intervertebral joints in the lumbar passage.

Methods and tools used in the studies consisted of the assessment of pain with the VAS scale (Eng. Visual Analogue Scale) and quality of life assessment with the Oswestry questionnaire before the treatment and on the first day after the treatment, after the first month, three months and after six months.

30 patients subject to thermolesion treatment were analysed.

20 questionnaire forms were returned (12 women and 8 men- at the average age of 59 years) who were subject to further analysis.

## Results

Making analysis of pain intensity with the VAS scale it was stated that pain complaints had reduced along with time until the moment of performing the treatment. The lowest pain problems were noted on the first day after the treatment (Figure 1). Reduction of the intensity of pain and disability was noted on VAS and Os-

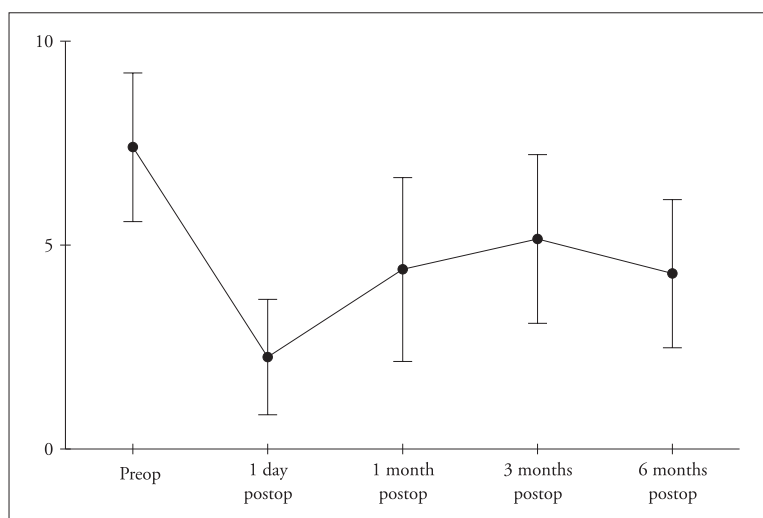


Figure 1. Visual Analogue Score after the RF lumbar treatment

westry Scales, continuing in the early and late period after lumbar thermolesion (Figure 2).

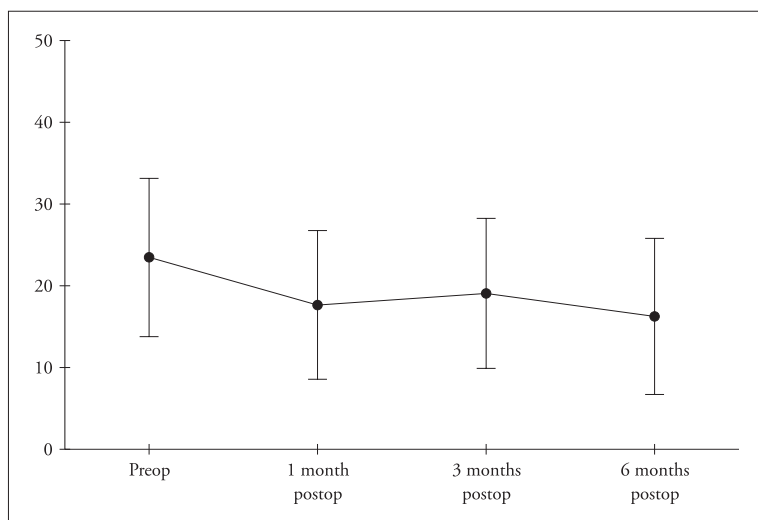


Figure 2. Oswestry Disability Index after the RF lumbar treatment

A fall was observed on average by 6 points after one month, after three months by 4.4 points, whereas after six months by 7 points.

## Discussion

Pain syndromes of the spine are caused in over 90% of cases by post-traumatic and degenerative changes of intervertebral disk. The frequency of pain occurrence grows at patients over 45 years of age [10–12].

The patients with acute pain are characterised by a sleeping disorder as well as appetite disorder, the lowered libido and the lowered pain threshold. Initially patients have difficulties with falling asleep, since they cannot find a comfortable position for themselves, and then pain seems to be more nagging. Sleep is disturbed by pain attacks. Very often patients feel tired after waking up. Chronic pain can cause the loss of appetite also and consequently weight losses. In patients with chronic pain there appears depression, which to a lesser degree seems to lower the mood but more often is associated with outbursts of anger and irritation. Outbursts of aggression in consequence cause the gradual elimination of all signs of social activity, the psychological isolation and closing in oneself [13–15].

The majority of patients are not able to have a job which causes a reduction of income and in consequence it results in lowering the standard of living.

Many researchers define chronic pain as illness in itself. It negatively influences the psyche, causes suffering, and disturbs the capacity of working, lowers the energetic attitude to life, worsens also the health condition, reducing immunity of the body [16–18].

All patients suffering from chronic pain feel similar mechanisms causing lowering of the quality of life i.e. physiological, psychological and social disorders. They

depend on the duration of pain and the degree and its intensity.

The research which was carried out in Clinic of Curing Pain at the Clinics of Anaesthesiology and Intensive Care in Warsaw in the period 2009–2011 in the study groups of patients proved that thermolesion treatment was an effective method of treating chronic pain. The positive effects of the treatment were observed in 18/20 (90%) patients from group I, 18/19 (94.73%) of patients from group II and 31/33 (93.93%) of patients from group III [19–22].

It has been stated, that thermolesian treatment has the advantage over other techniques of the physical and chemical neurodestruction and correctly applied technique strict following the principles of establishing indications and contraindications, makes the frequency of complication appearance very low.

Good results of thermolesia are also obtained with mechanical backpain in the cervical, thoracic and lumbar sections of the spine where the occurrence of complaints is generated by degenerative changes at inter-spinal joints of the spine.

Thermolesion is a method widely applied also in patients with other pain syndromes such as vascular headache. There was also observed a reduction of the complaint in 70% of cases of the trigeminal neuralgia.

Chronic pain requires comprehensive and multi-directional proceedings as well as invading methods, neuromodulation techniques, psychotherapy or also rehabilitation programs. Application of thermolesia is little-invasive and is an effective method of fighting pain complaints of the spine.

Positive results of the therapy determined by authors as “good” or “very good” are achieved according to literature in the majority of patients. The method is characterized by an effectiveness of 50–70% and has a small number of side effects [23–25].

Pain is a complex phenomenon and accompanies almost every illness, triggering numerous reactions which weaken defense mechanisms of the organism, therefore relieving and reducing pain is so significant.

## Conclusions

1. Lumbar thermolesion is an effective method of curing the lumbago of the articular origin which reduces disability of patients in the early and late period.
2. Thanks to the thermolesion treatment it is possible with the electricity of the high-frequency to exclude fragments of nerves transmitting pain and

to liquidate pain without permanent damage to the nervous tissue.

3. Reduction of pain intensity and disability shown on the VAS and Oswestry Scales, continuing in the early and late period was observed after lumbar thermolesion.

### Implications for Nursing Practice

Taking multidirectional actions being aimed at an evaluation of pain intensity and participation in activities and treatment being aimed at relieving it.

Effectiveness in activities, aimed at minimizing, reducing or even eliminating the accompanying symptoms of pain which will result in the improvement of the quality of patients' life.

There is a need for further observations and examinations of the constantly growing group of patients requiring the treatment of pain also by means of invading and effective methods of fighting it, which include thermolesion treatment.

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