



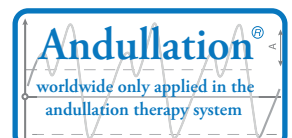
> Research on the Effect of Andullation Therapy on Chronic Back Complaints in Cases of Degenerative Disorders of the Spinal Column

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Chronic Back Complaints in Cases of Degenerative Disorders of the Spinal Column

Andullation Therapy with the Andullation Therapy System - A Multicentric Study

> Introduction

Back complaints are the main reason for sickness absence in the western world. The causes of the development of degenerative disorders of the back depend on multiple factors. Both environmental factors (work conditions) and individual (genetic) factors are involved. Seventy to 80% of the world's population will sooner or later suffer back problems. The majority of back complaints appear between the 20th and the 55th year of age. Non-specific back pain causes up to five million lost working days per year in the UK. According to a study published in the British Medical Journal in 2008, the overall costs of back pain in the UK is about £5 billion per year.

> Andullation Therapy with the Andullation Therapy System

A large number of patients who use andullation therapy with the andullation therapy system for different kinds of treatment; report a reduction in their pain, an improvement in blood circulation and improved lymph drainage. In addition, they all experience a relaxation of the muscles and a considerable improvement on their general well being.

Whenever the dorsal muscles exhibit a reduced blood flow, the whole of the dorsal system (the upper, middle and lower spine) will exhibit a reduction in supportive muscle tension. Also, due to the long-term accumulation of breakdown products from cell metabolism, the dorsal muscles become tired much more quickly. This not only reduces the elasticity of these muscles, but also their power of contraction. This leads to a disproportion in the muscular force between the different dorsal muscles, which can lead to myogelosis in the form of diffusely palpable hardened areas within the muscles and/or a reduction in the stability of the spinal column itself. In the long term this inadequacy of the dorsal tensor muscles becomes increasingly pronounced, and this can later be accentuated by a developing atrophy of the ventral trunk muscles.

> Study Methodology

In order to investigate the effects of andullation therapy with the andullation therapy system 99 patients with chronic back complaints (longer than 6 months), which were ascribed to degenerative disorders of the spinal column, were evaluated in this multicentric study.

During an observation period of 10 treatments, 76 women and 23 men were examined. The average age was 57 years (33-85 years) with the largest age group being between 44 and 64 years. A majority of 60 patients exhibited problems in the area of the lower back, 17 patients had complaints principally in the region of the thoracic spinal column and 12 identified pain in the neck region. Exclusion criteria were pregnancy, serious osteoporosis, tumours, planned surgery and medication using opiates. Evaluation was carried out by measuring the pain in accordance with the VAS pain scale, and via parameters from the validated and standardized SF-36 questionnaire. The study concentrated on the analysis of activities during a normal day. In addition, they were questioned regarding intake of painkillers. This assessment form was presented to each patient before the first treatment, after 5 and after 10 treatments. The evaluation was carried out by means of variation analysis (ANOVA) using the SPSS programme. In view of the low number of patients in the groups with thoracic back pain and neck complaints, no statistical comparison between the three groups was possible.

In 73 of the 99 patients, besides andullation therapy with the andullation therapy system; treatments were also carried out such as physical therapy,

> Results

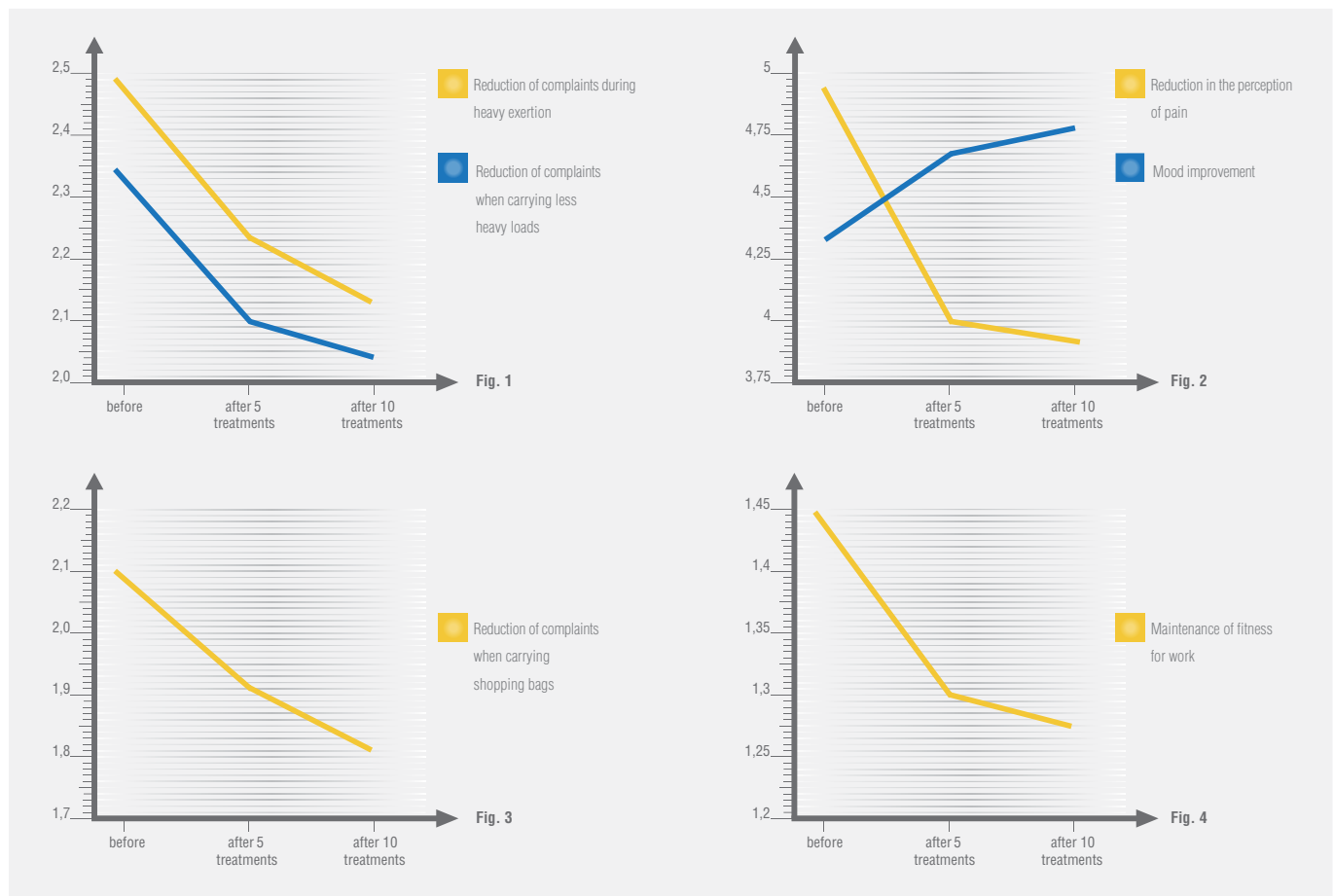
The influence of andullation therapy on the activities during an average normal day was evaluated using parameters from the SF-36 questionnaire.

Figure 1 shows that after 5 treatments, heavy exertion, such as jogging, lifting heavy objects and high-exertion sports could be carried out with obvious improvement. No additional improvement was observed after 10 treatments. Figure 1 also shows that even after 10 treatments, a considerable improvement is observed when carrying out less heavy activities, such as moving a table or hoovering.

Performing physical exertion can be associated with psychological tension and muscular cramps. A question was asked concerning emotional problems. After the last treatment, a much more positive answer was given to the question “Were your nerves so bad that nothing could cheer you up?” 57.4% of the patients reported an improvement in their sleep patterns. (fig. 2) Good sleep quality is essential for ensuring regeneration of body and mind.

Most muscular cramps occurred in the region of the lower back. After the treatments, a total of 46.6% of the patients experienced a reduction in such cramps. The visual analogue scale (VAS) is an important measuring instrument for reproducing the patient’s own judgement of his pain, on a scale from 0, meaning no pain, to 10, being the strongest pain. On Figure 2, a significant improvement in the reported subjective pain is noted after the first five andullation therapies. On the other hand, almost 30% of the patients treated report a reduction in the intake of painkillers.

Figure 3 shows that for lifting and carrying briefcases and shopping bags an improvement is achieved, of the same order as for the carrying of medium heavy loads. Figure 4 shows how andullation therapy can also produce a better effect in maintaining fitness for work and/or for carrying out of regular daily activities. These are important economic parameters in healthcare. We have also identified a significant improvement here.



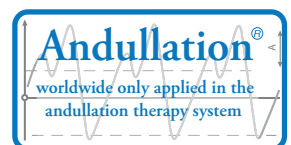
> Summary and Conclusions

The multicentric study is impressive. Already, after 10 treatments with andullation therapy, when using the andullation therapy system for only 15 minutes each, a significant improvement occurs in the back pain, which is connected with degenerative disorders in the spinal column.

Andullation therapy also brings about a significant reduction of muscular cramps in the lower back. A reduced intake of pain-controlling medication is also observed. In the vast majority of the patients an improvement in their mood and increase in their subjective well being was noted. Since 57.4% of the individuals tested indicate that they also get a fuller amount of sleep, it can be concluded that andullation therapy promotes the regeneration of body and mind.

From analyzing the influence of the andullation therapy system on activities carried out during the normal day, it appears to be very clear that it is much less difficult to carry out heavy exertions, which put strain on the back.

It is to be expected that a regular application of andullation therapy using the andullation therapy system leads to a distinct and enduring reduction in back conditions caused by degenerative disorders of the spinal column.



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