

Physical Therapy

— Traction Treatment in Vertebral Conditions —

A study of Practice

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Physical Therapie — Extension Treatments in Diseases of the Spine — a Study in Practice

Key words: physical therapy — extension treatment in diseases of the spine

Summary

Physical therapy – traction in patients with spine diseases Traction as a method of physical treatment is used successfully in our practice since more than 15 years. Especially in patients with pain of the cervical and lumbar spine caused by functional problems, disc prolapse, osteochondrosis, spondylosis and osteoarthritis of the spondylar joints good results can be achieved. 123 patients suffering from acute and chronic spine diseases underwent traction-treatment in connection with warmth. The following study shows that in more than 80% of the lumbar spine and 70% of the cervical spine patients report about a satisfactory relief of their pain.

Traction is also an optimal method because of its cost- and time saving characteristics.

Materials and methods

The microwave therapy couch **MiLi** with the traction equipment **TRAComputer** made by the company **MEDIZIN ELEKTRONIK LÜNEBURG** was used in this study. The apparatus settings for therapy time, traction angle and static dynamic program selection of traction force and number of treatments were chosen following specialist physician directions.

The cervical spine traction has a choice of 10 programs (program 1–10). Initial force did not exceed 5–8 daN (deka Newton) (could be extended to 10 daN). For lumbar spine traction there is a choice of 11 programs (program 10–20). Initial weight to produce traction force should not exceed 30% of body weight. The subjective feeling of the patient was given priority (allowing a max. of 45 daN).

Therapy evaluation considered the following aspects:

- treatment cycles undertaken with gaps of several years were evaluated independently (degenerative progression)
 - classification of pain reduction results as
 - a) good improvement (g.i.)
 - b) improvement (i.)
 - c) slight improvement (s.i.)
 - d) no improvement (n.i.)
 - e) no result (n.r.)
- () abbreviations for graphs

The medical histories recorded following treatment were categorized as follows:

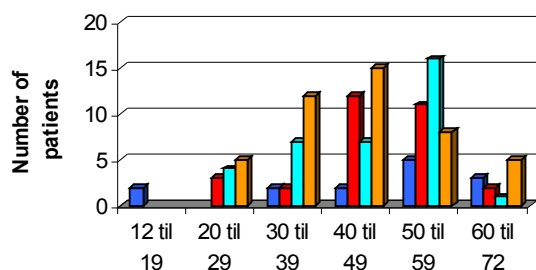
- duration and intensity of the condition
 - acute: up to 4 weeks
 - sub-acute: up to 4 months
 - chronic: 4 to 6 months
 - chronic / relapsing: over 6 months
- Evaluation was of 123 patient records, 146 treatment cases were documented and 23 patients were treated twice.
- The total number of primary traction sessions was 1125, i.e. an average of 7.7 traction treatments per patient.

- For 57 patients the traction treatments were given one after another. On average there were 6.9 repeat treatments for this group.
- The patients age ranged from 12 to 72 years, 49 men and 74 women were evaluated.
- 57 cervical spine treatments and 89 lumbar spine treatments were carried.

Results

Figure 1 shows the frequency distribution of the age grouping for cervical and lumbar treatments. An accumulation of cervical region conditions is seen for women in the age groups 40–49 and 50–59 years. The number of men with cervical conditions remains virtually constant throughout all age groups.

Lumbar conditions increased for both sexes throughout the working life and then decreased after retirement age. The maximum number of lumbar spinal conditions for



■ cervical male ■ cervical female ■ lumbar male ■ lumbar female

Fig. 1: Cervical and Lumbar spinal treatment for male and female patients over a range of age groups

men was seen in the 50–59 age group.

Distribution of the improvement levels for cervical and lumbar treatments:

The figure 2 graph shows pain reduction for traction treatment in cervical and lumbar spinal zones. A general improvement was seen by 83% of the lumbar condition patients and 72% of the cervical condition patients.

The numbers show very clearly the measurable success of this physiotherapy method and confirm the subjective pre-study improvement reports made by patient and physician.

The distribution of acute, sub-acute and chronic / relapse status of the condition (fig.3) also shows the good response to the traction method for all of the subjective categories. The number of treatments for chronic status was on average greater [n = 7,7 + 6,9 = 14,6]

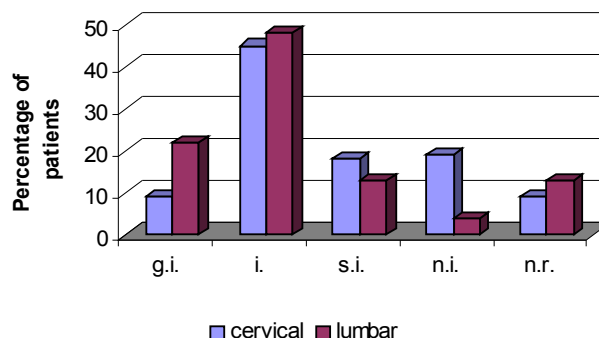


Fig. 2: Distribution of improvement levels for cervical and lumbar spinal conditions

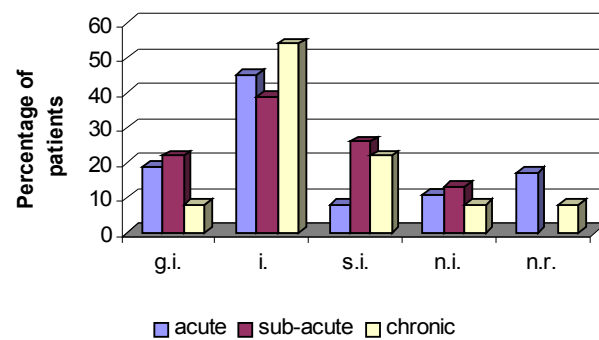


Fig. 3: Distribution of improvement for different status classifications

Distribution of the improvement level for treatment with or without an additional therapy measure (such as medicated bed rest, physiotherapy, kinetic bathing, etc.) showed unexpectedly good results for the mono-treatments, but this could not be supported statistically (treatment cases n = 146) and could have been a random effect (fig.4).

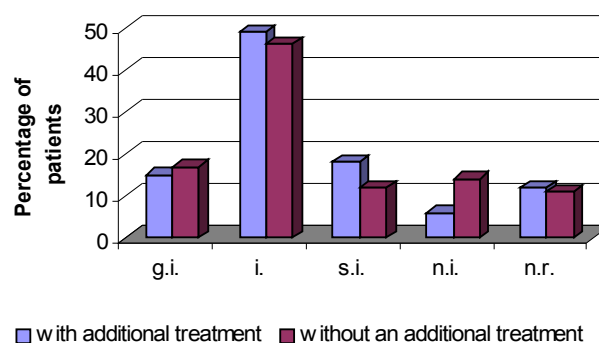


Fig. 4: Distribution of pain relief for traction treatments with and without an additional treatment measure

The treatment results did not show a further reduction in pain (status quo) for a fixed number of further treatments (Æ 6,9) (6/8/10 treatments or more). The satisfaction of the first treatment series is documented by these results (fig. 5) (treatment time, number of primary treatments n = Æ 7,7).

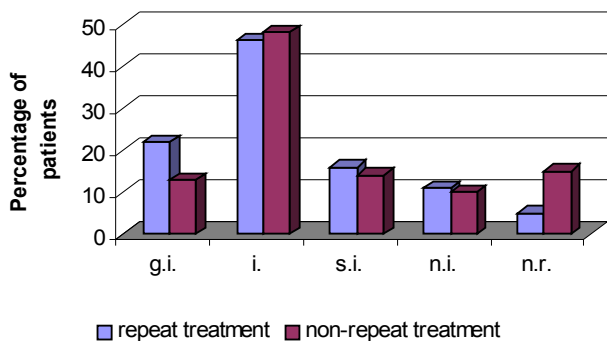


Fig. 5: Distribution of pain relief for repeat and non-repeat treatments

Discussion

Traction treatment in the orthopaedic clinic has proved to be a very important treatment method for the physician and patient in terms of its pain reduction success, treatment cost, duration of treatment in terms of condition improvement. It is indispensable in orthopaedic pain therapy.

The overall result for over 80% of lumbar spinal syndromes and over 70% of cervical spinal syndromes was good (good improvement, improvement, slight improvement) (fig.6). Further studies of practice will be required to confirm these results.

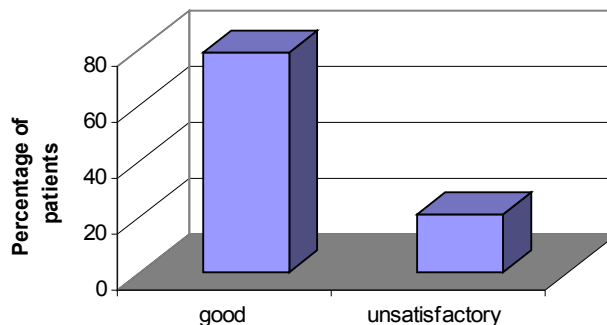


Fig. 6: Summary of the results of the evaluation groups (g.i. / i. / s.i. ⇒ good n.i. / n.r. ⇒ unsatisfactory)

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