



Physiotherapy's Guide at Home for Patients with Apoplexia Cerebri Receiving Intravenous Thrombolysis

Tanya Megova^a, Nina Mihaylova^b, Mariela Filipova^{c*}, Daniela Popova^d, Leyla
Kraydjikova^e

^{a,b}*MU Pleven; Department of "Kinesitherapy"*

^{c,d}*SWU "Neofit Rilski", Blagoevgrad, Bulgaria; Department of "Kinesitherapy"*

^e*NSA "Vassil Levski"*

^c*Email: mariela_redm@yahoo.com*

Abstract

This work examines the application in the clinical practice of intravenous thrombolysis in patients with ischemic stroke, describes its occurrence, the experience of foreign authors who practice it, the recovery of patients in clinics and rehabilitation centers, as well as results from the application of innovation in Bulgaria.

Key words: stroke; thrombolysis; outpatient guide.

1. Introduction

Venous thrombolysis reduces hospital stay. The recovery time of the motor deficit is minimized, sometimes it is take a few hours. The possibility of application of the procedure in patients with severe co-morbidity increases the choice for the application of recanalization. It verified the extent to which patients have mastered the exercises conducted in the hospital setting and at home in our developed guidelines. An example of kinesitherapy's procedure.

* Corresponding author.

2. Methodology of physical therapy

Physiotherapy's tests /Barthel index, Ashworth test, Mingazzini- Strumpel test and NIHSS/ were carried out before and after treatment in a hospital [1, 7, 9, 10], and the 30th, 60th, 90th day, and the first year. In our program achieved rapid progress by the motor deficit [4, 12]. On the third day of the acute condition to increase the density of the procedure and reduce the preparatory and final part. Dominated by special exercises and elements of standard methodologies. Each procedure requires the active participation of the patient and proper execution of the exercises. In this period, learning activities of daily living exercises for upper and lower extremities [5, 8], which was subsequently supported locomotion [2, 3, 6], activities of daily living and restoration of functional independence of the patient. Trained patient alone to conduct some exercises with support from the healthy limb to avoid apraxia [11]. There are breathing exercises, idiomotor exercises (mirror therapy) to support brain plasticity.



Figure 1: Kinesiotaping for upper limb

Some of the exercises have made with a kinsio tape on the injured limb, whereby the skin rises above the muscle and tendon and creates additional interspace and facilitates lymphatic drainage and maintain the damaged area (Figure1 and Figure2).



Figure 2: Exercises for fine motor movement

Coordination exercises. The patient is trained in the proper walking. On taking up his starting position and execution of exercises, adjust the proper execution of the exercises.



Figure 3: Exercises in self verticalisation and proper standing after falling in patients with right-sided hemiparesis

Kinesitherapy is recommended verticalisation with assistance and training in standing alone in a fall - the patient leans on the damaged hand on the floor /Figure 3/. The final part is performed breathing exercises to avoid hypoxia.

3. Conclusion

In this study it was investigated motor deficits in patients after intravenous thrombolysis administered. This study showed the benefit of a full functional analysis, prognosis and assessment of the effectiveness of the therapy is applied. He had traced the change in the intensity of muscle strength, muscle tone, balance, coordination, gait, activities of daily life, independence of the patient and hand movements before and after intravenous thrombolysis. The results of the studies of the change in intensity of muscle tone show significant reduction of available muscle hypotonia.

4. Recommendations

The following recommendations are forwarded:

1. Seminars with educational character for the active participation of the patient's relatives with the aim of continuity between the different units of treatment and recovery.
2. It is necessary to train the relatives of the sick for implementing kinesitherapy exercises at home.
3. Recommend intravenous thrombolysis be combined with aggressive physical therapy by seeking an individual approach with the primary diagnosis, accompanying diseases and general condition of the patient.

References

- [1]. Adams, HP Jr, del Zoppo G, Alberts MJ, Bhatt DL, Brass L, Furlan A, Grubb RL, Higashida RT, Jauch EC, Kidwell C, Lyden PD, Morgenstern LB, Qureshi AI, Rosenwasser RH, Scott PA, Wijdicks EFM . Guidelines for the Early Management of Adults With Ischemic Stroke: A Guideline From the American Heart Association/American Stroke Association Stroke Council, Clinical Cardiology Council, Cardiovascular Radiology and Intervention Council, and the Atherosclerotic Peripheral Vascular Disease and Quality of Care Outcomes in Research Interdisciplinary Working Groups: The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists. *Stroke* 38 , 2007:1655 - 1711
- [2]. Bohammon and Smith, Physical therapy, *Journal of American Physical therapy association*, vol. 67, number 2 , feb.1987
- [3]. Eremiev M. Therapeutic approach to low back pain in the area with limited range of motion in the hip, Optimization of combining modern manual techniques in the treatment of musculoskeletal dysfunctions. NSA Press, S., 2011, ISBN-978-954-718-323-0, pp 70-78.
- [4]. European Stroke Organisation (ESO) Executive Committee; ESO Writing Committee. Guidelines for management of ischaemic stroke and transient ischaemic attack 2008 . *Cerebrovasc Di*
- [5]. Ivanova, E., M. Ryazkova, D. Kostadinov, Rehabilitation of patients with post stroke hemiparesis , *Medicine and Sports* , Sofia, 1983
- [6]. Kanchev, D. Soft tissue techniques - a specialized methodology of physical therapy in functional abnormalities officials formally in charge of the cervical spine and the results of the study, Optimization of combining modern manual techniques in the treatment of musculoskeletal dysfunctions. NSA, ISBN-978-954-718-323-0, 2011 pp. 46-54.
- [7]. Karaneshev, G., D. Miltcheva S. Iancheva diagnostic methods and research in therapeutic gymnastics , NSA , 1991
- [8]. Kraydjikova L., (2011), Manual methods of mobilization with muscle - skeletal dysfunction in the spine, *Avangard prima*, Sofia
- [9]. Shotekov , P. *Neurology* , MI " Arso " , 2004
- [10]. Stamenova P., Iv.Milanov, *Bulgarian Neurology* , Algorithms for diagnosis and treatment of major neurological diseases , Volume 12 / Issue 2, September 2012 p.51 - 58, 64 ;
- [11]. Tityanova , I. Velcheva B. Stamenov , *NEUROSONOLOGY AND CEREBRAL HEMODYNAMICS*, vol. 6, 2010 , No. 1 , p.20 -33
- [12]. Topuzov I. Oxidative stress and sport. *St. Ives. Rilski*, Sofia, 2002