

NON-PHARMACOLOGIC METHODS IN THE MANAGEMENT OF CHRONIC PAIN SYNDROMES AND THE ROLE OF THE BI-DIGITAL O-RING TEST

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ABSTRACT

Pain is the most frequent clinical complaint and symptom. Available methods for pain management are insufficient or inappropriate in many cases. So, persistent pain may become chronic. By definition, chronic pain is a therapeutic failure and a challenge for research [1-3].

Patients included in this study had suffered from severe persistent pain for at least 6 months. All 55 patients with chronic pain syndromes (23 women, 32 men) underwent a thorough neurological investigation, including X-ray, MRI, sensitivity testing, and a neuropsychological evaluation during the examination period at a neurological clinic. Patients with verified organic lesions in the nervous system (radiculopathy, neuropathy) were termed as neuropathic pain patients (n=21). When no organic lesion was observed and the pain showed signs of reflexogenic (mostly myofascial) disturbance, they were termed somatic pain (n=34). In order to obtain a better assessment of neuropathic pain patients we finally used the recently developed diagnostics with transcranial (transvertebral) magnetic stimulation [4].

Essentially the therapeutic approach integrated the accomplishment of four tasks depending on the individual condition of patient:

1. Inhibition of the nociceptive system: local anesthetics, non-steroid antiinflammatory analgesics, GABA-ergic agents, benzodiazepines, sodium-channel blockers, NMDA-receptor blockers, agents caused depletion of substance P.
2. Activation of the antinociceptive system: opioid analgesics, inhibitors of the norepinephrine, dopamine and serotonin uptake, acupuncture, electroacupuncture, microwave resonance therapy and other physical modalities stimulated the endogenous opioid production.
3. Influence on the interaction of nociceptive and antinociceptive systems: acupuncture, transcutaneous electrical nerve stimulation (TENS), physiotherapy methods (electric, magnetic, thermal, soft-laser, ultrasound), massage.
4. Normalization of psychoemotional manifestations of chronic pain: antidepressants, anxiolytics, psychotherapy, acupuncture, physiotherapy.

The results of pharmacological treatment were at variance. On the whole, for somatic pain of articular and myofascial origin the local anesthetics and non-steroid antiinflammatory analgesics showed clinically perceptible efficiency. Management of neuropathic pain required prescription of GABA-ergic agents and NMDA-receptor blockers.

Non-pharmacologic methods, especially acupuncture, can be applied to accomplish tasks No 3, 4, and 5. Their important advantage is an absence of the side reactions or complication. Basic schemes for acupuncture analgesia were investigated by means of different clinico-electrophysiological methods including evoked somatosensory potentials of brain and registration of the nociceptive flexion reflex. The phasic pattern in development of acupuncture analgesia was revealed. The inhibition phase developed after the 5-10 minute stimulation of appropriate acupoints and was the most significant at the 20-30 minute interval. A short facilitation phase appeared before the inhibition one in the very beginning of the session.

In this direction, a special interest represented the Bi-Digital O-Ring Test (discovered and developed by Y. Omura from 1977) as a method for monitoring the level of pain thresholds with real-time measurements. Principally, results obtained showed possibility to use the Bi-Digital O-Ring Test for such an assessment. Also, it is confirmed that major cause of intractable pain is due to Herpes Simplex Type I virus or Herpes Simplex Type II virus infection with or without bacterial association. Most patients with chronic pain syndromes can be relieved by a mixture of EPA (Eicosa Pentaenoic Acid) and DHA (Docosa Hexanoic Acid) as an effective anti-viral agent which application has been proposed by Y. Omura from 1980s.

A peculiar place among non-pharmacologic methods for the pain management belongs to the microwave resonance therapy (low-intensity millimeter-wave electro-magnetic stimulation of acupuncture points) but mostly for somatic pain [5].

Psychoemotional disturbances are common for most cases of chronic pain. The choice of treatment (medication, psychotherapy, or their combination) depends on the severity of symptoms, and responses to treatment. In this direction the Bi-Digital O-Ring Test can be useful for screening and for monitoring responses to treatment. Along with the administration of effective medication selected by the Bi-Digital O-Ring Test, the Selective Drug Uptake Enhancement Method, by the above mentioned various stimulation (mechanical, electric, magnetic, thermal) of

the brain representation areas, ensures that the medications will be delivered to the necessary parts of the central nervous system.

So in the temporary conditions, non-pharmacological methods including the Bi-Digital O-Ring Test are suitable for integration into the management of chronic pain syndromes. Their application apparently will improve the outcome of the individual therapeutic program.

References

1. Rawal N, Berggren L. Organization of acute pain services: a low-cost model. Pain, Vol.57, 117–123, 1994.
2. Lysenyuk, V.P., Golovchansky, A.N., Kozhanova, A.K. Pharmacopuncture in rehabilitation of patients with the postamputation pain syndrome. Medical Rehabilitation, Balneology, Physiotherapy, Vol.19, No 3, 11-13, 1999.
3. Usichenko, T.I., Lysenyuk, V.P., Groth, M., Pavlovic, D. Detection of ear acupuncture points by measuring the electrical skin resistance in patients before, during and after orthopedic surgery performed under general anesthesia. Acupunct. Electrother. Res., Int. J., Vol.28, 167–173, 2003.
4. Barker, A.T., Jalinous R., Freeston, I. L. Non-invasive magnetic stimulation of the human motor cortex. Lancet, Vol. 1, 1106–1107, 1985.
5. Lysenyuk, V.P., Samosyuk, I.Z., Kulikovich, Y.N., Kozhanova, A.K. Experimental study on the low-intensity millimeter-wave electro-magnetic stimulation of acupuncture points. Acupunct. Electrother. Res., Int. J., Vol.25, 91-99, 2000.