The position of Chinese massage (Tuina) in clinical medicine

Mesto kineske masaže (tuina) u kliničkoj medicini

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Introduction

Traditional Chinese Medicine (TCM) in its narrow sense refers to acupuncture, Tuina (Chinese massage), moxibustion, herbalism and diagnostics, tongue treatment and pulse palpation. Tuina is defined as a therapeutic treatment utilizing hands and/or instruments locally, at the place of pain, or distantly, via meridians for the treatment and management of pain and injuries 1. Tui means to “push” and Na means to “grasp” 2. In the period between the year 221 BC and 265 AD the first book on Tuina was written, and its principles have been utilized ever since. In the period 265–960 AD special departments for Tuina were established in the National Hospital in China intended only for imperators, ministers and officers. Tuina was being developed really fast in the period 960–1368, and the second book was written with complete instructions, techniques, first instruments and immobilization treatments. The period from 1368–1911 is considered to be the peak in the improvement of Tuina. Today, Tuina has a wide spectrum of applications worldwide, and especially in China where it is applied in almost every family 3.

Tuina is an important segment of TCM, which independently or in a combination with other TCM techniques provides better results in treatment of certain diseases in comparison to Western medicine. Having knowledge of symptoms and diseases for which TCM provides a better treatment, one should rather consider Tuina, acupuncture, or moxibustion. Since 1974, World Health Organization (WHO) has considered TCM as an separate and equal branch of medicine. New textbooks on physical therapy describe techniques of classical manual massage and Tuina treatment, so in reflexology massage there are texts on periosteal massage, connective tissue massage, segment massage, acupressure, feet reflexology massage, Shiatsu massage (Japanese interpretation of Chinese acupressure) and manual lymphatic drainage 4.

Manual massage is the most applied manner of passive kinesiotherapy. Therapeutic massage is utilized in the treatment of a number of diseases and injuries. It is divided into classical therapeutic massage, lymphatic drainage and reflexology massage. The massage principle is based on the mechanical irritation on exter-, proprio- and interoreceptors, followed by the reflex reactions of tissue and organs. Furthermore, massage also has a direct mechanical action on tissue, increasing the flow of lymphatic and venous blood, initiating the appearance of active hyperemia of arterioles and capillaries in tissue, increasing local metabolism and elimination of disintegrated metabolic products, increasing swelling resorption and diverse pathological deposits in the tissue, improving the trophic tissue, etc. Massage is analgesic and spasmylotic, it increases secretory activity of sweat and sebaceous glands, increases the turgor and elasticity of skin, reduces fatigue and improves the contractile muscle ability 4.

If one compares classical manual massage and Tuina, one can observe great similarities regarding techniques, indications and contraindications. The names of the pain points to be treated are diverse. In classical manual massage these are maximal “painful” points, in Tuina these are acupunctural and Ashi points (ashi = painful). The main differences are in the concept of treatment, where Western medicine treats the disorder of organs or organ systems, while TCM treats energy balance disorder in the entire body. Tuina is practiced in Serbia at the Military Medical Academy, Belgrade (and in just a
several private clinics), although there are no literary information on its clinical efficiency in this region.

The aim of the paper was to present the physiological and therapeutic action of Tuina with a special insight in its clinical efficiency.

**Tuina: traditional concept of physiological basic and therapeutic effects**

**Physiological approach**

The main principles of Tuina are regulation of Zang and Fu organs, regulation of Yin/Yang balance, and meridian and collateral activation. Tuina promotes the circulation of Qi and activates blood, normalizes blood flow and repairs synovial structures and ligaments.

In the oldest known medical book in China, the Inner Canon of the Yellow Emperor (475-221 BC) the following is written: “Yin is inside the person and it is the material basis for Yang. Yang is on the outside as a function, a manifestation of Yin”. This was said 4 500 years ago, and written 2 500 years ago. The disease appears when there is the excess of Yin or Yang, or the deficit of Yin or Yang, ie, when the circular flow of energy is in any kind of disarrangement. Qi is commonly translated as bioenergy, a special vital energy. Qi circulates through acupuncture channels, and has its transformations in acupuncture points: Qi is Yang. Xue is its Yin, whose best translation is blood, though it is not blood in the classical sense of the word. Even though it also circulates through acupuncture channels, it is actually a body fluid.

The fundamental physical and therapeutic approach of Tuina is to treat primary causes, and then the consequences. In exceptional cases the vice versa principle is applied (for example, if the cause is coma, first the points Du 26 and Ki 1 are stimulated). Tuina stimulates vital Qi and eliminates a pathological factor; it regulates Yin and Yang by reducing excess syndromes and stimulating the deficit ones. The therapeutic treatment of Tuina is also in the fact that the treatment is planned in accordance with the season, as well as mental and individual abilities.

**Therapeutic effect**

Therapeutic effect of Tuina has been an issue of investigation of modern medicine, mostly in France, and the Chinese are very proud of that fact. The most investigated technique is rubbing. Tuina acts on the nervous system by gentle skin touch, activating the parasympathetic and inhibiting the sympathetic. The consequence is the relaxation of the heart and muscles. Opposite to gentle touch, strong massage differs action, since it inhibits the parasympathetic and stimulates the sympathetic, which is then reflected in the stimulation of the central nervous system and in the inhibition of the peripheral nervous system, as well as in the increase of muscle tension. After 10–15 minutes, relaxation and sedation occur. Tuina acts on the circulatory system in such a manner as to dilate capillaries and promote reconstruction of the blood network, increase elasticity of blood vessels, activate bloodstream and reduce blood viscosity. Tuina acts on the digestive system in such a manner as to regulate muscle movements, their work and tension by abdomen massage. It results in better digestion. Tuina acts on the urinary system by inducing sphincter contraction and promoting urination. Tuina acts on the immune system by stimulating it. Thus, Tuina is utilized in the prevention of diverse diseases, especially by foot massage. It has been proved that the action of Tuina on the endocrine system promotes insulin secretion in patients with diabetes. Tuina also regulates menstrual problems.

Tuina acts on the locomotion system by activating blood flow after muscle movement. Tuina repairs traumatic lesions and removes tendon adhesion. It also corrects the anatomic dislocations and influences the resorption of edemas and hematomas. The essence of Tuina is the action of an external force. Force is a stimulating factor that activates the channel system and modifies their function. Hence, this is the manner in which the rehabilitation is explained (Figure 1).

**Application techniques**

The main Tuina techniques are as follows: scraping, pressure, patting, shaking, rolling (Figure 2 a, b and c), rotating, and wave techniques, as well as compound techniques which are the combinations of the listed or those specially designed for children. They are introduced as surface and Anat manipulated, and wave techniques, as well as compound techniques which are the combinations of the listed or those specially designed for children. They are introduced as surface and deep manipulation; they act along the meridian movement or opposite to it, locally or on acupunctural points, or alternating pressure – relaxation.

The doctor performing treatment by Tuina has to have clean hands, no jewelry, has to heat the hands before the

Fig. 1 – Illustrations of Tuina Manipulations

Tuina induces both, central and local analgesia. Central analgesia occurs by reducing the brain stimulus, while local analgesia occurs due to better regulation and via the trigger point (points where the pain “disperses”).

treatment during the winter season and has to cover the patient with a towel (Figure 2 c), which is opposite to classical massage in Western medicine where the therapist has a direct contact with a patient’s skin or via a medium in the form of oil or the like. It is necessary for the doctor to follow a patient’s reaction, and if needed, to make alterations in the therapy. Chinese massage should not be applied if the patient is too hungry or too full, nor when they are too tired (eg after practicing sports). The entire body is divided into six zones: face and head, neck and shoulders, chest and abdomen, lumbar spine, hands, legs, and almost every point utilized in acupuncture can be utilized here.

For chronic diseases, Tuina is applied every second day, and for acute diseases every day or even twice a day. The therapy usually lasts for seven to ten, or even fourteen days. There is a possibility of the occurrence of side-effects to the therapy in the form of pain or a complete body weariness. In that case, the patient is given a rest for a few days. If side-effects are repeated, the therapy should be altered. The main patients’ positions are supination, lying and sitting, and pronation, as well lying and sitting, and the lateral position. Medical examination is based on inspection and deduction, following the teaching of Daoists. The diagnosis is set both based on the pulse palpation and tongue check. Applying the fundamental manipulations, the doctor persistently and constantly utilizes fingers, thumb, hands, elbows, and feet, acts on the body surface and stimulates the points. When fine pressure is achieved by placing a finger on an acupunctural point (AP), a completely the same effect is obtained as in classical acupuncture. In clinical practice, individual manipulations of Tuina are rare; rather, combined manipulations are applied. There are more than 110 diverse manipulations, though only 20–30 are the most common ones in practice. Warm compresses and ventuses are also included in Tuina as supplementary mediums and supplementary methods. Various mediums like oils, powder or fat reduce skin irritation. If a medicament is the medium, it increases the therapeutic effect. Mediums like garlic, ginger and medicament in the form of fat heat up the channel and remove cold. Cold water is also a good medium for Tuina since it decreases temperature, the same as sesame oil and egg white.
Indications and contraindications

Main indications of Tuina are: injuries; rheumatic, cardiac, gynecologic, otolaryngologic, ophthalmic, pediatric diseases; special entities such as insomnia, neurasthenia, headache, epigastric pain, diarrhea, constipation, hemiplegia, facial nerve palsy, stiff neck, shoulder pain (frozen shoulder), general obesity, muscular torticollis, etc. 

Contraindication are: acute infective diseases, fractures in early stages, malignant tumors, strong intern diseases, mental diseases, pregnancy and menstruation, hemorrhage, etc. With the stated diseases, one can apply traditional Chinese medicine and proscription one 16.

Tuina: clinical efficiency

The paper utilized databases as follows: PubMed, Medicine, and eCAM with the key words: Tuina, massage, acupuncture, Tuina, and acupuncture Science and Journal of Traditional Chinese Medicine) in the period from August 2003 – December 2009.

There are studies stating that massage utilizing acupressure reduces pain better than the classical massage, though it provides worse results in comparison to transcutaneous electrical nerve stimulation 17. When considering soft tissue injuries, Tuina in combination with acupuncture provides much better results than Western medicine. The channels are the ones to connect the body surface with the organs inside. Tuina acts in a manner as to regulate the inner organs via meridians 19 eg successful treatment of multiple sclerosis (MS) and rigidity within Parkinson’s disease utilizing Tuina, without medicaments, where the author, the neurologist, has also been the patient with MS 20, 21.

A large number of papers present that acupuncture provides better results in the treatment of neurological, rheumatic and traumatic diseases than Western medicine. Acupuncture and Tuina together offer better results in comparison to monotherapy with acupuncture or monotherapy with Tuina. Likewise, results are better if Tuina is combined with other traditional Chinese medicine methods, like Qi Gong, moxibustion, Chinese herbal medicine, etc.

As an example, four studies compare a combined therapy of acupuncture and other methods of traditional Chinese medicine, including injections into the acupuncture points 17, intravenous injections of purified Chinese herbs and Tuina in comparison to Western medicine methods. Lu and Yan 25 combine acupuncture with Chinese Tuina, providing a comparison with indometacin (25 mg twice a day for 30 days), a standard drug for migraine, and obtaining better results. Acupuncture and adequate traditional Chinese medicine methods have presented significantly better results in the treatment of migraine in relation to the control group treated with Western medicine 26. With inflammatory diseases (arthritis, colitis), the acupuncture is more successful in the early stage of diseases; however, in medium and late disease stadium, Tuina provides better results (Table 1).

<table>
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<tr>
<th>Response</th>
<th>Acupuncture</th>
<th>Tuina</th>
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<tbody>
<tr>
<td></td>
<td>early stage (n = 24)</td>
<td>late &amp; middle stage (n = 66)</td>
</tr>
<tr>
<td>Excellent (n)</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Good (n)</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Satisfactory (n)</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Poor (n)</td>
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<td>9</td>
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<tr>
<td>Total (%)</td>
<td>100</td>
<td>86</td>
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<tr>
<td>Excellent &amp; good (%)</td>
<td>91</td>
<td>43</td>
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In the treatment of 18 cases with chronic prostatitis, the efficiency of acupuncture and Tuina was 94.4% 28. In the therapy of primary dysmenorrhea (30 cases), acupuncture in combination with Tuina presented the efficiency of 93.3% in relation to the control group treated only with acupuncture, where the efficiency was 73.3% 29. The insomnia occurring due to joint deficit of the heart and spleen, treated with acupuncture, moxibustion and Chinese Tuina (92 cases), provided significantly better results than in the patients treated only with acupuncture and moxibustion 30. The effects of acupuncture and Tuina on the patients having stroke, presented better results in comparison to Western medicine treatment, especially in the rehabilitation of hemiplegia, facial nerve palsy and disphagia 31.

The treatment of 120 cases with rigidity syndrome ligation Nuchae with acupuncture and Tuina was successful in 95.8% of cases 32. With 42 cases with stiff neck, after acupuncture, Tuina was applied in the zone of pain and muscle spasm. After 1–3 treatments, all patients were cured 33. Acupuncture plus Tuina with cervical spondylosis provides better results (92.1%) than monotherapy with acupuncture (68.4%) or with Tuina (65.8%) 34. With the protrusion of cervical intervertebral disk (8 cases), all symptoms disappeared and the full mobility in this segment returned after the treatment of Tuina and acupuncture 35.

The therapy of musculus supraspinatus tendinitis (100 patients) was 96% successful in the group.
treated with acupuncture and Tuina in comparison to the control group (74% efficiency) treated only with acupuncture. Clinical study utilizing warm needles, moxibustion and Tuina with periarthritis humero-scapular joint (80 cases) was efficient in 95% of cases in comparison to the control group treated only with Tuina (85% efficiency) in removing pain. Headache induced by cervical syndrome (80 cases) was significantly better treated with acupuncture and Tuina together than with individual therapies.

Therapeutic effects of acupuncture and Tuina in the treatment of sprains and strains of joints in fists and feet (metacarpophalangeal and metatarsophalangeal joints) provided better results (93.4% efficiency) in comparison to monotherapy with acupuncture (70%) and Tuina (73.3%) (90 patients were treated).

Tuina manipulation is successfully applied in lumbar intervertebral disk herniation. Cervical spondylosis inducing compression on artery vertebralis treated only with Tuina (157 cases) presented excellent results in 86.6% cases. Application of Tuina in clinical observation study with 47 patients with vertigo treated them with massage of the triple heater meridian (sanjiao) and gallbladder meridian on the head. The results presented a complete healing in 36 cases and significant improvement in 11 cases. The efficiency of the therapy was 100%.

Tuina applied in 37 cases with postoperative urinary retention led to the healing of 36 patients. Research has proven that Tuina acts on postpartum milk secretion, considering the initial lactation time, serum prolactin level, and lactation volume and is recommended for the treatment of postpartum hypolactation. Tuina manipulation is successfully applied in lumbal intervertebral disk herniation. Cervical spondylosis inducing compression on artery vertebralis treated only with Tuina (157 cases) presented excellent results in 86.6% cases. Application of Tuina in clinical observation study with 47 patients with vertigo treated them with massage of the triple heater meridian (sanjiao) and gallbladder meridian on the head. The results presented a complete healing in 36 cases and significant improvement in 11 cases. The efficiency of the therapy was 100%.

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Tuina in pediatrics is an important component of traditional Tuina therapy, whose unique manner of treatment was formed during the Ming and Qing dynasty. The aim of Tuina in pediatrics is to unblock meridians and collaterals, to start Qi and activate blood, to balance Yin and Yang, to harmonize Zang and Fu organs and to increase the organism resistance to diseases.

Traditionally, in the therapy with Tuina there is a difference in treatment according to the infantile sex (Yin and Yang presentation). In the therapy prescription, the points and channels of the right arm are stimulated for girls and of the left arm for boys, while other points and channels are stimulated bilaterally. Even though Tuina as an independent method provides good results in infantile treatments, especially when considering injuries brachial plexus, anorexia, and constipation, a combination of acupuncture and Tuina has proven to be more efficient with infantile torticollis, the application of moxibustion, and Tuina presented the efficiency of 100% with diarrhea, while the application of acupuncture injections (injections of diverse medicine in acupunctural points), functional exercises, Tuina and acupuncture provide best results in the therapy of cerebral paralysis.

Conclusion

Tuina is a type of massage. It is used as an independent method and as an additional method to traditional and Western methods of treatment. Review of the literature shows that it has been successfully applied to the states after injuries, rheumatic, neurological and other diseases.

In published studies, the synergistic effect of Tuina with acupuncture and other methods of TCM is emphasized. Effects alone and in combination with TCM therapy are better compared to Western medicine. Future studies, planned in the Department of Physical Medicine and Rehabilitation, will compare the effect of Tuina and acupuncture with conventional massage and ultrasound massage, as well as with other agents in physical and rehabilitative medicine.

Classical massage is similar to Tuina, and following the historical line, it emerged from it. If they are applied together, the indication area is expanded. In the novel literature, it is justifiable to utilize the term “integrative medicine” instead of the term “alternative medicine”. It is all one medicine.

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