RESTRICTIONS ON THE USE OF AUTOMATIC VIBRATIONAL MASSAGER

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Our previous studies demonstrated a health improving effect in patients whom underwent an automatic vibratory massage. The results of our studies gave quantitative characteristics of physical effects produced by the automatic massage on the work of a human’s heart.

In these investigations, we exposed the male and female volunteers of different age to the automatic vibrational massage of a low frequency (12 Hz). The massage session lasted 10 minutes. The experiments were conducted every day. Depending on the position which the patient takes on the vibrating platform, the low frequency vibrations might affect primarily his either lower limbs or his thoracic area.

We have noticed the rejuvenating, invigorating effects of this procedure. We attributed this positive effect to the improved blood circulation in a body. After analysis of the obtained results, we concluded that the exposure of the patients to the vibratory massage increases the effective radius of vessels and also increases the cardiac output of a heart. These were two reasons for the improved blood circulation in a body.

First of all, we assumed that one of reasons that might explain the observed healing effect of the automatic massage was a stimulated increase in the effective size of blood vessels. Based on the Hagen-Poiseuille equation, we made estimates for the relative change in the effective radius of blood vessels. They gave the 0.7% and 1.3% increases in the effective radius of blood vessels in lower extremities in men during systole and diastole, respectively, and the corresponding 1.1% and 0.6% increases in the effective radius of blood vessels of lower extremities in women during the same periods [1].

We also assumed that the other factor which might contribute to the invigorating effect is the increased volumetric rate of blood circulating in the body. Based on the measurements of the arterial blood pressure, we made an assessment of the change in the heart's stroke volume (SV). The assessment of the stroke volume changes gave 9.6% increase during systole and 7.1% increase during diastole in male patients, and corresponding 6.7% and 4.7% increases for female patients [2].

At the same time, during the course of study, we noticed the unwillingness of patients to take the massage more often than once in 4-5 days. They started to express this discomfort after 3-4 sessions of the automatic massage. No explanations were provided. It concerned all age groups of patients. We thought,
that some side effects made them hesitant to repeat the massage session again.

It seems to us, that the low frequency mechanical vibrations 6 mm in amplitude except the improved blood circulation, also affect the other internal bodily organs. It is known, that whole body vibrations (WBV) may produce neurological, bowel, and respiratory disorders, hormonal disbalance, and physiological changes in a body [3]. The side effects from the massage may have brought to some extent discomfort which patients experienced. So, in order to decrease the negative effects of the procedure, the prescription of this type of massage may be limited to one session per 5 days. These side effects require further investigations.

References:

