

CLINICAL STUDY

Impact of classic massage on blood pressure in patients with clinically diagnosed hypertension

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CONCLUSION: The drops in blood pressure by several percent, noted in the majority of the female subjects over the time of the study. Classic massage might provide a safe supportive measure in pharmacologic treatment of hypertension.

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Key words: Massage; Blood pressure; Hypertension

Abstract

OBJECTIVE: To assess the impact of classic massage on the changes in the values of blood pressure in women with previously diagnosed hypertension.

METHODS: The study involved a group of ten women aged 60-68, who had previously been diagnosed with hypertension. Ten sessions of classic massage of the lower limbs were performed on the subjects. The massage sessions were conducted every day over ten consecutive days. Throughout the treatment, the subjects' blood pressure was measured using a manometer with a stethoscope TRO-CARDIO KIT 2 MONO. Their blood pressure was taken 1 min before the massage, as well as 1 min and 5 min after each session. The study took place between March and June 2013 in Szpital Specjalistyczny im. Jędrzeja Śniadeckiego (Jędrzej Śniadecki Specialist Hospital) in Nowy Sącz, at the Department of Internal Diseases.

RESULTS: For ten consecutive days, the blood pressure values in the examined women were decreasing, with the exception of the diastolic blood pressure measured 5 min after the massage.

INTRODUCTION

Recent years have seen an increase in interest in massage. This has clearly had to do with the current tendency to use methods of alternative rather than conventional medicine. Massage, undoubtedly, brings lots of health benefits, and moreover, it relaxes the body.¹

Heart conditions are, in the present world, the main cause of death and physical handicap. One of the main causes of coronary diseases, cardiac infarction, stroke, nephropathy, and coronary atherosclerosis is hypertension, which along with diabetes is the most common disease of our times. The illness often starts in people at their physical and professional peak. With its progress, it often leads to serious complications, which are often life threatening.^{2,3}

The definition of hypertension is rather difficult and has to be conventional. Hypertension occurs when during several measurements performed while the person is resting, the blood pressure exceeds the threshold defined as the norm. Taking into account the great changes in blood pressure, before a patient is diagnosed as having a high blood pressure, raised values of their blood pressure must be confirmed during measurements taken repeatedly for several weeks.^{4,5}

The condition does not get recognised in almost half of the people suffering from hypertension. What is more, only up to several percent of all cases are treated

successfully. The research is continuous in order to find out more about the pathogenic mechanisms of the condition, as well as to improve the diagnostic methods and its treatment.^{6,7}

Having researched the specialist journals, the Author has found just a few articles related to the assessment of the impact of classic massage and other methods of alternative medicine on changes in blood pressure in patients with hypertension.⁸⁻¹² Therefore, every new report from that field can extend our knowledge of how to control blood pressure safely and efficiently.

The aim of this study was to assess the impact of classic massage on blood pressure in women with hypertension, aged 60-68. The following questions were raised in the study: How does a series of lower limb classic massage sessions influence the values of blood pressure as measured in the examined women for ten consecutive days? Can classic massage be safely performed in hypertensive persons?

MATERIALS AND METHODS

The study was conducted in a group of 10 women aged 60-68, suffering from hypertension. Such a selection of subjects was intentional. The studied women had a mean age of (63 ± 3) years, body height (167 ± 4) cm, and body weight (70 ± 14) kg. The study took several months, from March till June 2013, and it was conducted in Jędrzej Śniadecki Specialist Hospital in Nowy Sącz (Poland), at the Department of Internal Diseases. All the subjects confirmed a generally low physical activity lifestyle prior to the study. Each woman was taking the medication prescribed by her doctor. In total, ten lower limbs massage sessions were performed on each patient, one session per day, between the hours of 10.00-12.00, over ten consecutive days. Each session took 20 min (10 min for each limb). The massage of the lower limbs was conducted using the methods recommended by Magiera,¹³ along with the Author's own modification (with the exclusion of the pummelling technique). The following techniques were used in sequence: stroking (10% of the total time of the massage session; 5% at the beginning of the session and the other 5% at the end), rubbing (30% of the total time of the massage session), kneading (40%), vibration (10%) and skin rolling (10%). Blood pressure was taken 1 min before each massage session, as well as 1 min and 5 min afterwards. Blood pressure measurements were taken with a manometer with a stethoscope TRO-CARDIO KIT 2 MONO, article number 61022, series: 21 / 707 - 01, Atest-CE0032, REE NO; 61022, LOT 21 / 707-01, 2005-07 in the range of measurements 0-300 mm Hg.

A brief chat with each subject on how they were feeling after the course of massage followed the study. The research was conducted with the permission of the hospital management. The examinations were non-invasive,

anonymous, and did not exceed the basic diagnostic standards applied in the case of hypertensive patients. All the female subjects were diagnosed with stable essential hypertension rated as first and second degree according to the classification adopted by Polskie Towarzystwo Nadciśnienia Tętniczego (PTNT; Polish Hypertension Society) in 2003, following the guidelines of the European Society of Hypertension (ESH) and European Society of Cardiology (ESC) which were published in the same year.¹⁴ The examined women had been suffering from hypertension for at least twenty years and had never been given classic massage.

Women who suffered from resistant and secondary hypertension were excluded from the study. The same applied to the women who could not undergo massage due to their health issues. The female subjects were treated with Angiotensin Converting Enzyme Inhibitors (ACEI). An Informed Consent Form was signed by the participants prior to the first massage session. The decisive criterion for participation in the experiment was the decision of the ward head of the hospital department which treated the women.

Statistical methods

The most basic statistical description of the studied variables was then drawn.¹⁵ The following were calculated: mean, standard deviation, median, minimum and maximum. The distribution of each variable was then confirmed with the normal distribution. In order to do so, the Shapiro-Wilk normality test was applied. $P > 0.05$ was the level that a distribution was consistent with the normal distribution.

Where there was normal distribution of both variables in a pair, the *t*-Student test for dependent samples was applied. However, for cases with no normal distribution (for at least one of the two variables in a pair), the non-parametric Wilcoxon test was used. The significant level was $P \leq 0.05$.

RESULTS

The results of the study have been presented in the tables and graphs below.

The mean parameters of systolic blood pressure measured before and after a course of lower limbs massage were close to the top norm value (140 mm Hg), whereas the mean values of diastolic blood pressure noted in all the measurements taken were lower than the norm - they varied between 64, 80-74 mm Hg. The highest value of systolic blood pressure noted down was 160 mm Hg, and of diastolic blood pressure - 90 mm Hg (Table 1).

Table 2 shows the results of the Shapiro-Wilk test. There was no normal distribution for systolic blood pressure measured 1 min before the tenth massage session and 5 min after it. Therefore, in these two cases the Wilcoxon test was applied.

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