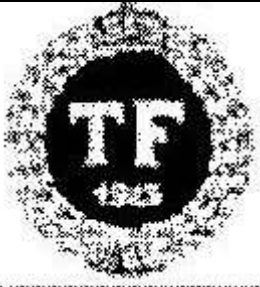




2007 - Semmelweis / Changes of registered, psycho-physiological parameters by drinking „KAQUN”, water with high oxygen concentration

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The Psycho-physiological effects of the high OXYGEN content „KAQUN WATER” drinking cure and bath

1st part

Introduction

The results of earlier examinations suggested that the consumption of the high oxygen content kaqun water results in an increase in the oxygen saturation. On behalf of the Centrion Hungária Ltd. we have examined the change in the other physiological parameters we agreed on.

The aim of this study is to examine objectively the oxygen saturation, the reaction time, the exertion of forces, the blood pressure, the data can be derived from the ECG, the stress index and the standing stability

during the continuous consumption of the high oxygen content Kaqun water and before and after a simultaneous Kaqun bath.

We performed the measurements in the Kerepes Kaqun Gold Klub on 26th May 2007.

Methodology

The persons taking part in the measurement

The participants: 6 women and 4 men. Their average age is : 37.8 years.

The tools and instruments used

We measured the oxygen saturation with the „Oxycard” instrument being the property of the commissioner and manufactured by the Innomed Rt. (Budapest). This instrument beside the mentioned parameter can also display the pulse per minute count.

We registered the choice reaction time with the patented „Psycho 8” type differential psycho-physiological measuring instrument. We did the measurements on both left hand and right hand. We registered the individual averages, the deviations, and the „A” and „B” type mistakes. „A” type mistake occurs when the participant did not react to the stimulus, and „B” type is the mistake when the choice was incorrect.

The gripping force of the hand was measured with the „Psycho 8” measuring instrument with the aid of a special adapter. The screen showed the data in both numerical and diagram format. We measured the gripping force of both the left and right hand.

We registered the cardiologic data with the Vicargo instrument. The instrument is the property of the Energy Lab. Technology, Hamburg. The instrument provides the parameter of the state of the heart (scale of 0-5), the stress index (scale of 0-100 %), and the pulse per minute count. Besides these parameters it performs a complex calculation on the basis of

the digitalized data of the ECG. Among them there are the FFT analysis, the time of period histogram and the Poincaré diagram.

The measurement periods followed each other in case of each participant in 1,2 hours. (length of intervals)

We applied 2x20 stimuli in measuring the reaction time.

We adjusted the hand-gripping adapter to the size of the participants' hands in measuring the gripping force.

We did the Vicardio measurements with 4 electrodes, and we applied the Einthoven layout.

We examined the standing stability with the stabilometer instrument consisting of a force measuring platform, an amplifier, a micro computer and a Laptop.

We measured the blood pressure with the OMRON automatic instrument being the property of the commissioner.

The temperature of the Kaqun bath was 38°C and the time interval was 50 minutes.

The target fluid intake was 5-7 dl during the measurement.

The abbreviations used in the tables:

O2 sat.	Oxygen saturation %
RT right	reaction time ms (with the right hand)
RT left	reaction time ms (with the left hand)
RT dev.	Deviation of the reaction time ms (st. dev.)
Force right	gripping hand force (with the right hand)
Force left	gripping hand force (with the left hand)
Cardio	the parameter of the sate of the heart on a scale of 0-5 (5 is the best)
Stress	stress index, on a scale of 0-100% (it is suitable under 35 %)
Pulse	the (average) pulse per minute count
Ro. I.	the measurement value of the standing stability in the Romberg test . the radius of the characteristic circle in mm, (the smaller the better value) the measurement takes place with open eyes
Ro. II.	the measurement value of the standing stability in the Romberg test . the radius of the characteristic circle in mm, (the smaller the better value) the measurement takes place with closed eyes.
Blood pressure	in this slot there are two values for the systole and diastole values.

Results

The results of the measurements can be seen in Tables 1.a / and b/. The data groups marked with the letters a/ and b/ summarizes the results of the two measurement cycles, and related to the time schedule of the measurement.

Discussion

The examination of the biological effect mechanism of the high oxygen content Kaqun water was not in the scope of this study.

The time consumption of the measurement of the high number of parameters lengthened the measurement cycle considerably, so it can be defended, that we in a few cases registered the results in the descending branch of the diagrams showing the effects of the Kaqun water.

We should note that the practice and the motivation can affect the results in certain parameters. In case of measuring the reaction time (1) practice, several repetition can improve the results. The operation of the answer button can be optimised. In case of the force measurement (2) the result also can be improved in a smaller degree with choosing the best way of holding. This can be achieved through several attempts. In both cases the degree of concentration is also an important factor.

The motivation of the participant in case of the standing stability measurement (3) also can play an important role. This effect, however, is small in extent. In order to eliminate these factors affecting the results in small extents of the first two measurement activities mentioned above (2,3) we made the participants perform enough practice exercises before the measurements.

In case of the Vicardio, the measurement of oxygen saturation and blood pressure these factors play hardly any role if the conditions of the measurement are prepared well before.

The parameter measuring the oxygen saturation after using Kaqun water was higher by an average of 1.2 %. Analysing the results of the participants one by one we see that after consumption 8 persons' results improved, one did not change and there was decrease in one case only. As during the measurement the level of oxygen saturation changes continuously, to assign the results to the actual level would be only possible with measuring the oxygen saturation continuously, but it was not feasible technically, as we had only one measurement instrument.

The average decrease of the reaction time (improvement) is 22 ms operating the answer button with the right hand after Kaqun water consumption. There was an improvement in case of 8 persons and there was decline only in 2 persons' results. When they operated the button with the left hand there was improvement in 6 cases and decline in 2 cases. The average improvement was 7.5 ms.

In case of analysing the force exertion we experienced an increase of 54 N with the right hand and 35 N with the left hand compared with the first control measurements.

As for the Vicardio results fatigue can only play a role. The value of the “heart state” parameter decreased by a small amount of 0.14. It is notable that the average stress decreased from 22,4% to 16.8%, so it improved. The same tendency can be traced in case of the pulse, the average pulse count decreased by 6 pulses per minute.

In the Romberg test we measured a 14% better result with open eyes, and with closed eyes the performance decreased by 7.8 %.

After the Kaqun treatment the blood pressure decreased by 2 %, although after the bath the reverse result would not be surprising either.

The measurement of several parameters was time consuming and seemingly it was tiring for some of the participants. The increase in the number of participants and the decrease in the number of parameters measured could improve the measurement results.

We can conclude that in the empirical measurements conducted we experienced favourable effects. The registered, mostly encouraging results can be the result of several factors. Among them there is the favourable effect of the high oxygen content Kaqun water by the increase in the oxygen saturation.

Budapest, 31st May 2007

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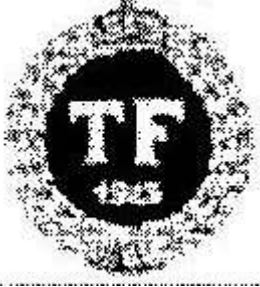
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The Psycho-physiological effects of the high OXYGEN content „KAQUN WATER” drinking cure and bath

2nd part

Introduction

On behalf of the Centrion Hungária Ltd. we repeated our earlier measurements with other participants but the same method. We again measured the physiological parameters settled in our agreement.

The aim of this study is to examine objectively the oxygen saturation, the reaction time, the exertion of forces, the blood pressure, the data can be derived from the ECG, the stress index and the standing stability during the continuous consumption of the high oxygen content Kaqun water and before and after a simultaneous Kaqun bath.

We performed the measurements in the Rehabilitation Centre of the St. Stephen Hospital on 1st June 2007.

METHODOLOGY

The persons taking part in the measurement

The participants: 4 women and 6 men. Their average age is : 38.8 years.

The tools and instruments used

We measured the oxygen saturation with the „Oxycard” instrument being the property of the commissioner and manufactured by the Innomed Rt. (Budapest). This instrument beside the mentioned parameter can also display the pulse per minute count.

We registered the choice reaction time with the patented „Psycho 8” type differential psycho-physiological measuring instrument, after a suitably long practice. We did the measurements on both left hand and right hand. We registered the individual averages, the deviations, and the „A” and „B” type mistakes. „A” type mistake occurs when the participant did not react to the stimulus, and „B” type is the mistake when the choice was incorrect.

The gripping force of the hand was measured with the „Psycho 8” measuring instrument with the aid of a special adapter. The screen showed the data in both numerical and diagram format. We measured the gripping force of both the left and right hand.

We registered the cardiologic data with the Vicargo instrument. The instrument is manufactured by and the property of the Energy Lab. Technology, Hamburg. The instrument provides the parameter of the state of the heart (scale of 0-5), the stress index (scale of 0-100 %), and the pulse per minute count. Besides these parameters it performs a complex calculation on the basis of the digitalized data of the ECG. Among them there are the FFT analysis, the time of period histogram and the Poincaré diagram.

The measurement periods followed each other in case of each participant in 1,2 hours. (length of intervals)

We applied 2x20 stimuli in measuring the reaction time.

We adjusted the hand-gripping adapter to the size of the participants’ hands in measuring the gripping force.

We did the Vicardio measurements with 4 electrodes, and we applied the Einthoven layout.

We examined the standing stability with the stabilometer instrument consisting of a force measuring platform, an amplifier, a micro computer and a Laptop.

We measured the blood pressure with the OMRON automatic instrument being the property of the commissioner.

The temperature of the Kaqun bath was 38°C and the time interval was 50 minutes.

The target fluid intake was 5-7 dl during the measurement.

The abbreviations used in Table1:

O2 sat.	Oxygen saturation %
RT right	reaction time ms (with the right hand)
RT left	reaction time ms (with the left hand)
RT dev.	Deviation of the reaction time ms (st. dev.)
Force right	gripping hand force (with the right hand)
Force left	gripping hand force (with the left hand)
Cardio	the parameter of the sate of the heart on a scale of 0-5 (5 is the best)

Stress	stress index, on a scale of 0-100% (it is suitable under 35 %)
Pulse	the (average) pulse per minute count
Ro. I.	the measurement value of the standing stability in the Romberg test . the radius of the characteristic circle in mm, (the smaller the better value) the measurement takes place with open eyes
Ro. II.	the measurement value of the standing stability in the Romberg test . the radius of the characteristic circle in mm, (the smaller the better value) the measurement takes place with closed eyes.
Blood pressure	in this slot there are two values for the systole and diastole values.

RESULTS

The results of the measurements can be seen in Tables 1.a / and b/. The data groups marked with the letters a/ and b/ summarizes the results of the two measurement cycles, and related to the time schedule of the measurement.

DISCUSSION

The examination of the biological effect mechanism of the high oxygen content Kaqun water was not in the scope of this study.

The time consumption of the measurement of the high number of parameters lengthened the measurement cycle considerably, so it can be defended, that we in a few cases registered the results in the descending branch of the diagrams showing the effects of the Kaqun water.

We also considered in this measurement serial that the practice and the motivation can affect the performance in certain parameters. In case of measuring the reaction time (1) practice, several repetition can improve the results. The operation of the answer button can be optimised. Thus, we elongated the measurement cycle in a way that the faulty answers disappeared practically and the speed of reaction did not seem to change any more.

In case of the force measurement (2) the result also can be improved in a smaller degree with choosing the best way of holding. This can be achieved through several attempts before the measurement. In both cases the degree of concentration is also an important factor.

The motivation of the participant in case of the standing stability measurement (3) also can play an important role.

We paid attention to eliminate the factors affecting unfavourably the objectivity of the measurement regarding the above parameters 1,2 and 3.

In case of the Vicardio registration, the Oxycard measurement and the blood pressure the above mentioned disturbing factors play hardly any role if the conditions of the measurement are prepared well before.

The parameter measuring the oxygen saturation after using Kaqun water was higher by an average of 0.5 % at the time of the second measurement. Analysing the results of the participants one by one we see that after consumption 6 persons' results improved, two did not change and there was decrease in two cases only.

We must note here that the consumption because of the long cycles also was elongated in time in this measurement serial.

In the second measurement serial compared to the first, the average decrease of the reaction time (improvement) is 20 ms operating the answer button with the right hand after Kaqun water consumption. We must note here, that the result was a week before 22 ms, which is a very similar value. There was an improvement in case of 8 persons and there was decline only in 2 persons' results. When they operated the button with the left hand there was improvement in 7 cases and decline in 3 cases. The average improvement was 16.2 ms.

In case of analysing the force exertion compared to the results of the first measurement serial we experienced an increase of 19.4 N with the right hand and 20.4 N with the left hand.

As for the Vicardio results fatigue could only play a role. The value of the "heart state" parameter improved by a small amount of 0.09. The average stress index decreased from 23,8% to 19%, so it improved, similarly to the participants' of the first serial. The same tendency can be traced in case of the pulse, although the decrease of the average pulse count was minimal.

In the Romberg test we measured a 4.5% worse result with open eyes, and with closed eyes the performance decreased by 7.8 %. As we did this test last, the participants said after several hours of active co-operation they were very tired.

After the Kaqun treatment the blood pressure decreased by 5.7 % (systole) and increased by 2.3 % (diastole)

The measurement of several parameters was time consuming and seemingly it was tiring for some of the participants. The increase in the number of participants and the decrease in the number of parameters measured could improve the measurement results.

We can conclude that in the empirical measurements conducted we experienced favourable effects.

As a matter of fact, the results were repeated, they confirmed the improvement in terms of the parameters regarding which we expected positive effects. The registered, mostly encouraging results can be the result of several factors. Among them there is the favourable effect of the high oxygen content Kaqun water by the increase in the oxygen saturation.

Budapest, 4th June 2007

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