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Original Scientific Paper

Yoga breathing in xenon therapy

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Abstract. *The combined application of yoga breathing technique and xenon therapy, allows reaching effective results when carrying out primary inhalations at patients with the raised indicators of anxiety and a depression at the expense of controlled and conscious breath with basic visualization. Available and clear methods of respiratory yoga which easily can master earlier not practicing, allow apprehending comfortably new feelings when carrying out the first procedures of inhalation xenon - an oxygen mix, at the expense of preservation of concentration of mind.*

Keywords: *inhalation, yoga breathing, xenon, yoga, xenon therapy.*

Introduction

Xenon is a noble gas that is used as an inhalation anesthetic and sedative. Today, the xenon therapy is an effective and safe method of treatment and prevention of the patients being in a condition of a constant stress with raised indicators of anxiety and depression. Modern approach and improvement of the accompanying equipment and equipment for carrying out inhalation and as development of techniques allows expanding indications for application of this method in the most various directions of medicine and sports (Dingley et al., 2001; Rossaint et al., 2003).

We carried out the comparative analysis among the patients taking a course of a xenontherapy with various indicators of alarm and a depression. Despite the expressed sedative effect, many patients who didn't have before experience of similar treatment, felt in the first some seconds when carrying out inhalation raising feeling of anxiety after which there came a relaxation. At supervision came to light that at anxiety emergence, the patients noting this phenomenon, didn't carry out standard respiratory equipment. At anxiety emergence instead of observance of the standard protocol of breath patients started breathing in the got-off rhythm that raised an expense of a gas mix, reduced comprehensibility xenon of an oxygen mix and reduced time of primary procedure.

Yoga breathing is performed by the patients whose condition is aggravated with feeling of the increased anxiety in order to minimize possible unpleasant feelings which the patient can feel during procedure. The reasons of the increased feeling of anxiety in the first seconds of inhalation, most likely, are connected with new experience that the patient is going through. At patients with chronically raised indicators of anxiety and a depression for the various reasons process the stress-limitation comes more slowly that demands additional attention during the work with this group of patients. Yoga breathing techiques request the practitioner to be aware and concentrated while performing them. In this research, patients performed complete yoga breathing while keeping thair attention on the flow of the air through the

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nostrils, during inhale and exhale. Both inhale and exhale are performed slowly and gently and attention is kept on the flow of the air inside the nostrils. Exercise is conducted 21 times.

Research objective:

The goal of this research is the comparative analysis of results of experimental and control group of patients undergoing xenon therapy procedure where the control group performs yoga breathing techniques and control group don't.

Tasks

1) To include equipment of respiratory yoga in the xenontherapy protocol
2) To estimate efficiency and validity of the combined application
3) To interview among patients in studied group about an assessment of individual feelings from carrying out yoga respiratory equipment

Methods

1. Group of patients of 21 people aged from 21 to 59 people: studied group of 10 people aged; control group of 10 people.
2. The device for xenontherapy MAGi-AMC
3. MEC-1200 cardiomonitor
4. Hospital scale of anxiety and depression *(HADS)*
5. Pulsoxymetry
6. Method of respiratory yoga of "OM-A-HUNG"

Research course

Before carrying out research to patients collecting the anamnesis and data about accompanying diseases for observance of identical conditions in two groups was carried out. There were also taken measurements of arterial pressure was made for control of the general state of health and the prevention of possible complications. Before the research has been conducted, it was checked tha none of the patients went through xenon therapy procedure. According to the general rules of carrying out the first inhalations were made with concentration of xenon in a contour of 25% at women and 30-35% at men. Inhalation was carried out on three breaths with a breath delay in both groups, with the subsequent relaxation and habitual breath. Before carrying out inhalation buy the members of exeprimental group, the detailed explanation and trial exercises for training was carried out. Patients in the control group were given explanation to breath as usual, without special instructions.
Poll of patients on HADS system was carried out before procedure of inhalation and two weeks later after carrying out the last inhalation. For all patients the carrying out protocol xenon - oxygen inhalation was identical:
- three days in a row;
- one inhalation per day;
- exposition time three minutes.

Indicators of frequency of warm reductions and an oxygen saturation were measured in peripheral blood before carrying out procedure, in time and after inhalation. By results of received results of frequency of warm reductions of movements anxiety increase in the first seconds of inhalation which
After inhalation, frequency of warm reduction as indicator of the level of anxiety was compared with the patients' expression of their feelings, in order to confirm reliability of results.

Results

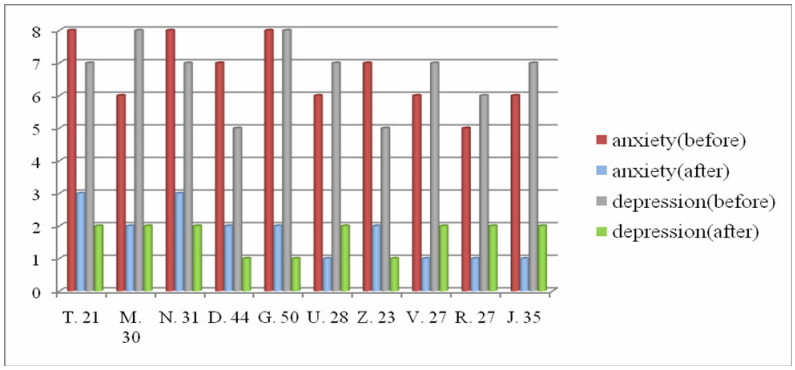


Table 1. HADS data at patients of studied group before and after research

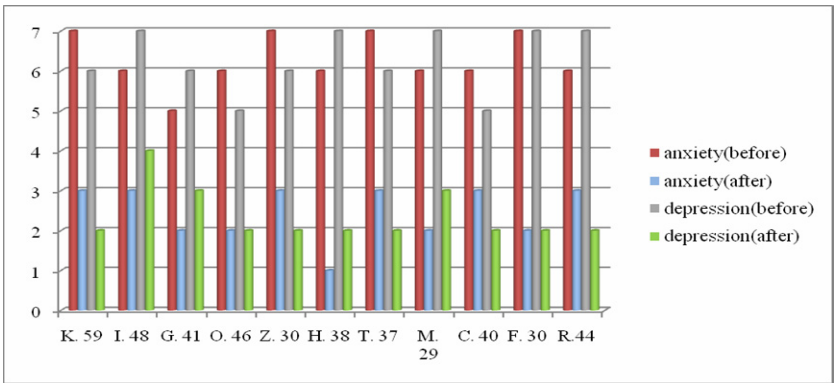


Table 2. HADS data at patients of control group before and after research

In the analysis of the received results of measurement of a Hospital scale of anxiety and a depression (HADS) shows that lower results of the indicators of anxiety and depression ramained for a longer period of time after the therapy in members of the experimental group. The analysis also shows the absence of the unpleasant feelings during the treatment in the experimental group, while they were noticed in control group.

Average values of change of indicators of anxiety and depression between two groups made in comparison with each other 1-2 units where more intensive decrease in indicators was noted in studied group.

In the analysis of individual feelings patients answered a question of emergence at them unpleasant feelings when carrying out inhalation. Part of patients noted unpleasant feelings only in the first visit, in the first two, and some patients couldn't finish the first inhalation up to the end. Patients feeling unpleasant feelings during thirds of procedure weren't marked out in one of groups.

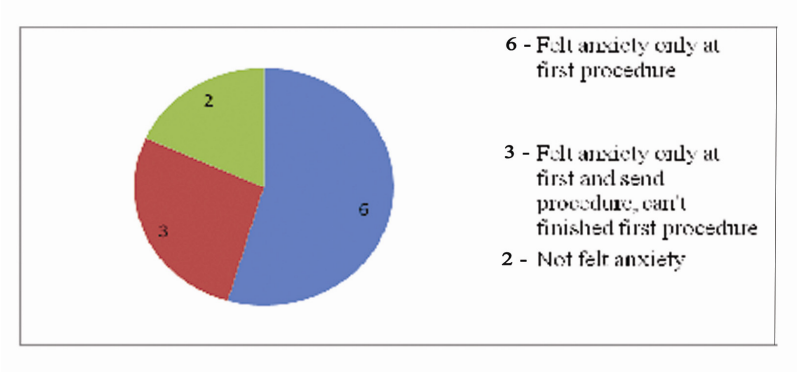


Figure 1. Results of poll of individual feelings in control group

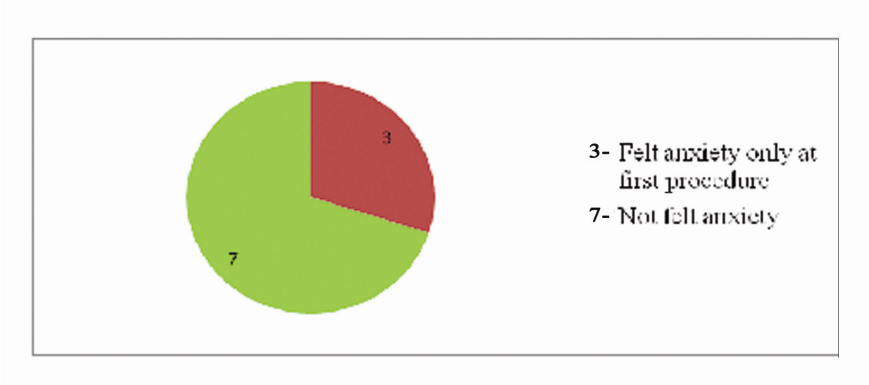
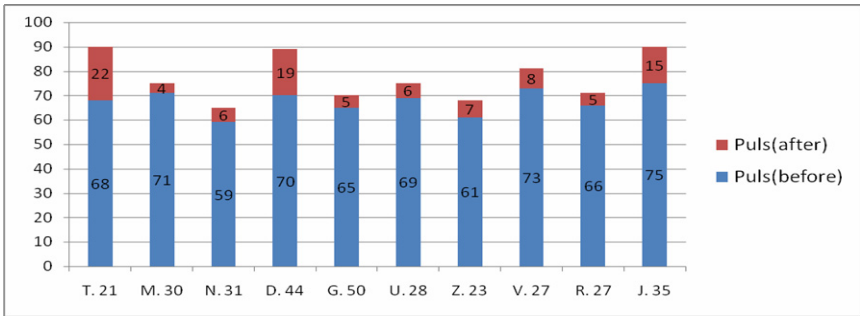
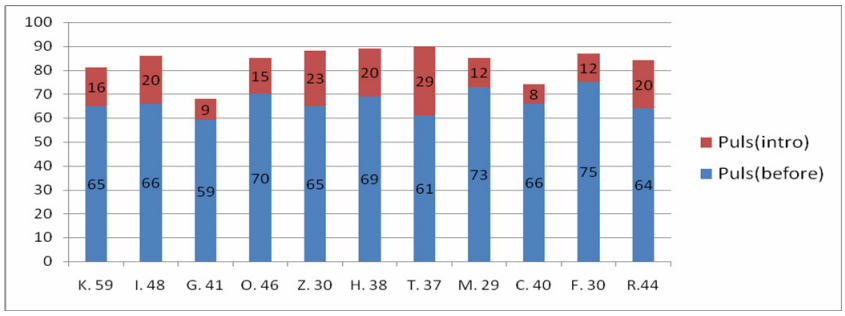


Figure 2. Results of poll of individual feelings in studied group

Indicators of frequency of warm reductions were fixed in the first 20 seconds from the moment of the inhalation beginning. The condition of the increased uneasiness is characterized by pulse increase without decrease in a saturation of oxygen in blood that was noted in all cases where this phenomenon was noted. Concentration of oxygen in a contour in the first seconds since the inhalation beginning on the average made not less than 60%.



Histogram 1. Frequency of warm reductions in studied group



Histogram 2. Frequency of warm reductions in control group

Discussion

By the analysis of the obtained results of change of scales of anxiety and a depression, the difference between compared groups where longer preservation of a positive effect in studied group is noted. Longer preservation of low figures of the HADS index is caused, that patients carrying out equipment of the yoga breathing didn't feel in overwhelming number the interrogated unpleasant feelings in the first seconds. In comparison with patients from control group who broke equipment of standard breath because of unpleasant disturbing feelings, patients of studied group acquired xenon more effectively at the expense of implementation of recommendations.

Poll of patients in groups showed that on the third procedure, all participating in research, didn't feel unpleasant feelings. In studied group patients in all cases didn't note uneasiness after the first inhalation.

Frequency of warm reductions is an indicator of reaction of an organism on experiences connected with stress because of the new experiences. In patients who kept tranquility and concentration, only insignificant warm reduction as the natural reaction of organism were registered. Whereas at patients from control group sharp jumps of pulse which were normalized within 20 seconds that allowed confirming authentically the feelings of anxiety noted by patients were noted.

Conclusions

During carrying out research it was successfully made combined applications of methods of respiratory yoga and xenontherapy, without violation of the basic principles and sequence of the protocol.

Efficiency of application of the combined use of yoga breathing and xenon therapy and it is proved on the example of the carried-out functional and psychological tests.

Among the interrogated patients of studied group, all noted availability in understanding of the breathing technique and simplicity of their performance. Results of the conducted research show that this kind of research should be conducted on the bigger sample in order to have better results of the effects of combined use of yoga techniques and xenon therapy.

References:

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