ORIGINAL ARTICLE

EFFECT OF VARYING DURATIONS OF PYRAMID EXPOSURE – AN INDICATION TOWARDS A POSSIBILITY OF OVEREXPOSURE

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ABSTRACT

Miniature replicas modeled after the Great Pyramid of Giza are believed to concentrate geoelectromagnetic energy within their cavities and hence act as antistressors in humans and animals. Although there are not many reports of adverse effects of 'overexposure' in the pyramid, subjects have claimed to feel uneasy after certain duration of staying in the pyramid. The present study was aimed to analyze the effects of prolonged pyramid exposure on plasma cortisol level, markers of oxidative damage and antioxidant defense in erythrocytes of adult female Wistar rats. Rats were divided into three groups, normal controls (NC, n=6) that were maintained under standard laboratory conditions in their home cages, pyramid exposed group-2 (PE-2, n=6) & pyramid exposed group-4 (PE-4, n=6) where the rats were housed under the pyramid for 6 hours/day for 2 weeks and 4 weeks respectively. Plasma cortisol and erythrocyte TBARS levels were significantly lower in both PE-2 and PE-4 rats and erythrocyte GSH levels and GSH-Px activity were significantly higher in them as compared to the NC rats. There was no significant difference in the results for these parameters between the PE-2 and PE-4 rats except for erythrocyte GSH-Px activity which was significantly more in the PE-2 rats than in the PE-4 rats. Although these results don't confirm any adverse effects of prolonged exposure in pyramids, they indicate a possibility of such adverse effects.

KEY WORDS

Giza pyramid, Cortisol, TBARS, Glutathione, Glutathione peroxidase, Overexposure.

Introduction

The Great Pyramid of Giza and its replica models are believed to enhance intensify and/or generate energy of the electromagnetic spectrum. Our scientific studies with mini wooden replica models of the Great pyramid of Giza have shown that exposure of adult female Wistar rats to pyramid environment reduces stress, oxidative stress and increases antioxidant defence in them (1, 2). Beneficial effects of pyramid exposure on other parameters namely improved

wound healing in rats (3, 4, 5) have also been reported. It has also been proved scientifically that the beneficial effects of pyramid therapy are best achieved when the pyramid is aligned on the four cardinal points (6). However, negative effects of pyramid exposure for a prolonged duration has been reported by mystics who claim that they could not meditate for a long time in a pyramid as they felt that they were experiencing excess energization. Similarly, some subjects reported that they could not sleep in a pyramid for more than three consecutive nights (7). To the best of our knowledge, there are no scientific studies done to determine negative effects produced due to prolonged exposure in pyramids. The objective of the present study was to analyze the effects of prolonged pyramid exposure on plasma cortisol level, erythrocyte TBARS and reduced glutathione (GSH) and erythrocyte glutathione peroxidase activity (GSH-Px) in adult female Wistar rats.

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Table 1: Parameters of neuroendocrine and oxidative stress in adult female Wistar rats exposed to pyramid for different durations (values are Mean $\pm$ SD)

	Normal control (NC, n=6)	Pyramid exposure for 2 weeks (PE-2, n=6)	Pyramid exposure for 4 weeks (PE-4, n=6)
Plasma Cortisol (nmoles/l)	4218.96 $\pm$ 628.26	2918.98 $\pm$ 656.7**	3015.49 $\pm$ 580.02**
Erythrocyte TBARS (nmoles/g Hb)	6.34 $\pm$ 0.95	5.11 $\pm$ 0.61**	5.08 $\pm$ 0.46**
Erythrocyte GSH (mg/g Hb)	2.28 $\pm$ 0.49	3.02 $\pm$ 0.6*	3.01 $\pm$ 0.33*
Erythrocyte GSH-Px (units/g Hb)	78.72 $\pm$ 4.08	95.75 $\pm$ 10.58*	79.54 $\pm$ 12.42 [#]

Statistical significance of results (ANOVA): ** $p < 0.01$, * $p < 0.05$ vs. NC; # $p < 0.05$ vs PE-2

MATERIALS AND METHODS

Rats were divided into three groups, normal controls (NC, n=6) that were maintained under standard laboratory conditions in their home cages, pyramid exposed group-2 (PE-2, n=6) where the rats were housed under the pyramid for 6 hours/day for 2 weeks and pyramid exposed group-4 (PE-4, n=6) where the rats were housed inside the pyramid for 6 hours/day for 4 weeks. Blood samples were collected from the rats on the day following the experiment and processed as described in our earlier study (1). Plasma was used for estimation of cortisol expressed as nanomoles/litre (8) and erythrocytes were used for estimation of TBARS level (9), reduced glutathione level (10) and glutathione peroxidase activity (11). The erythrocyte parameters were expressed as units/gram hemoglobin. Hemoglobin concentration was measured by cyanmethemoglobin method of Drabkin (12). The entire study was approved by the institutional animal ethics committee. All statistical analyses were carried out using one-way analysis of variance (ANOVA) in the Graph Pad Instat (GPIS) package.

Since conducting materials like metals are believed to block the electromagnetic forces owing to their tendency to absorb the energy (7), wood was chosen as the pyramid material. A wooden pyramid model of 30 inches height, 45 inches base and 41.5 inches side (2) fabricated locally was used for the study. Holes were provided for ventilation. A small glass window was provided for observation. The four triangular sides of the pyramid angled upwards at nearly 51 degrees to the base and met at the apex of the pyramid. The pyramid rested on a wooden base and was aligned on the four cardinal points-norths, east, south and west (6). Only one polypropylene cage each, with three to four rats, was placed in the pyramid at any given time. The cage was placed such that its long axis was in the magnetic north-south with the food and water in the north.

RESULTS AND DISCUSSION

The results are presented in Table 1. In the present study, we found significantly lower levels of stress as well as oxidative stress in both PE-2 and PE-4 rats. This was reflected in the findings that plasma cortisol and erythrocyte TBARS levels were significantly lower in both PE-2 and PE-4 rats and erythrocyte GSH levels were significantly higher in PE-2 and PE-4 rats and GSH-Px activity was significantly higher in PE-2 rats as compared to the NC rats. There was no significant difference in the results for these parameters between the PE-2 and PE-4 rats except for erythrocyte GSH-Px activity which was significantly more in the PE-2 rats than in the PE-4 rats. The possible explanations for the beneficial effects of pyramid on the above parameters are discussed in detail in our earlier studies (1, 2, 13, 14, 15). Although many beneficial changes have been reported and repeatedly observed in the pyramids (16), some mystics have complained that when they spend a great deal of time in the pyramid for meditational purposes, they felt they received 'too much energy'. Other people who have slept in pyramids claim that they could not do so for more than three nights in a row, because they were so 'energized' that they could not cope with the 'dynamo' affects they experienced (7). Also, pyramid therapists and pyramidologists advise their subjects that they need to come out of the pyramid the moment they feel uneasy. In the present study, although erythrocyte glutathione peroxidase activity was significantly lower in PE-4 rats than in PE-2 rats, it was not significantly different from normal control rats and hence, does not confirm any harmful effects of prolonged exposure in pyramid. However, it does indicate a possibility of harmful effects of 'overexposure' to pyramid. Further scientific studies with more prolonged time durations and also with other parameters on human subjects could throw more light to validate claims by subjects that pyramid therapy made them feel uneasy on prolonged exposure.

Though it has been suggested in our earlier studies that pyramid shaped rooms can be built in residences, hospitals

and recreation centres as an alternative therapy in stress management, duration of pyramid exposure is an important factor, and 'uneasiness' claimed by subjects due to 'overexposure' has to be kept in mind during pyramid therapy.

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