

## Influence of osteopathic technique on the level of female sex hormones

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### Introduction

Reproductive physiology is one of the important problems at present. Infertile married couples in Russia, according to sample data, as well as in other regions of the world, make up about 14% of practically healthy couples of childbearing age. One of the main causes of this infertility is idiopathic hyperprolactinemia. Prolactin is a marker of functional disorders of reproductive function. Excessive secretion of prolactin leads to disruption of menstrual and generative function in more than 20-30% of cases [2]. The leading role in the modern treatment of reproductive system disorders is played by hormone replacement therapy. It is important to take into account the fact that the administration of the hormone suppresses the residual endogenous secretion of the body, therefore, abrupt withdrawal, as well as prolonged intake of hormones, completely deprives the body of this hormone. Priority in the treatment of hyperprolactinemia (HPLC) of non-neoplastic genesis are drugs that block the synthesis, secretion or peripheral action of hormones - antihormones that block the binding of a hormone to the receptor, taking its place. Taking antihormones for therapeutic purposes also has various side effects.

It is known that a disruption in the functioning of the craniosacral system, accompanied by a change in the balance of the tone of the autonomic nervous system, can cause disturbances in the secretion of pituitary hormones. Considering the above, it is of interest to research in this area and to search for new methods of influence and treatment of functional disorders in the production of female sex hormones and to consider the possibility of a non-drug effect on the level of gonadotropins and, ultimately, on the production of sex hormones, as well as the use of other methods of treating hyperprolactemia - osteopathic techniques.

The goal of osteopathic treatment is to restore neuro-vegetative balance and eliminate functional disorders. In this way, the maintenance of good health of the relevant organs and systems is ensured. The effect on the hypothalamic-pituitary complex and the regulation of the production of sex hormones is possible through the cerebrospinal fluid.

The aim of the study in this work was to determine the effect of the osteopathic technique rolling of the temporal bones to the level of female sex hormones.

### Material and methods

The study was carried out on the basis of the Institute of Osteopathic Medicine, St. Petersburg Medical Academy of Postgraduate Education. The laboratory examination was carried out on the basis of the biochemical laboratory of the V.I. N.P. Botkin. We have undertaken a comprehensive clinical, laboratory and osteopathic examination of 36 women aged 25–35 years. On the basis of radiography of the sella turcica, ultrasound examination of the thyroid gland, ovaries and uterus, 12 patients with organic diseases were excluded from the study: hyperthyroidism against the background of thyroid goiter, polycystic ovary, pituitary microadenoma. The remaining 24 patients were found to have functional disorders of the reproductive system. They were divided into 2 groups: the main group, consisting of 14 subjects, and the control group, consisting of 10 women. The temporal bone rolling technique was used in the patients of the main group, the patients in the control group were under dynamic observation. The study was carried out under the control of the level of prolactin (PRL) and luteotropic hormone (LH) on the 21st day of the cycle.

### Research results and their discussion

The statistically processed results of the study of blood levels of PRL and LH in patients of the main and control groups are shown in the table.

table

Results of the study of PRL and LH

Гормоны	Основная группа				Контрольная группа		
	M ± m			P	M ± m		P
	До лечения	Через 1 месяц после лечения	Через 2 месяца после лечения		Первое обследование	Второе обследование Через 1 месяц	
Пролактин	452.93 ± 86.05	274.14 ± 23.24		0.029*	472.40 ± 47.62	470.01 ± 42.08	0.88
	452.93 ± 86.05		267.21 ± 12.14	0.023*			
		274.14 ± 23.24	267.21 ± 12.14	0.3			
Лютеотропный гормон	8.01 ± 2.49	2.37 ± 0.41		0.006**	7.88 ± 0.33	8.24 ± 0.51	0.15
	8.01 ± 2.49		2.58 ± 0.34	0.008**			
		2.37 ± 0.41	2.58 ± 0.34	0.17			

M ± m – среднее значение ± стандартная ошибка среднего значения.

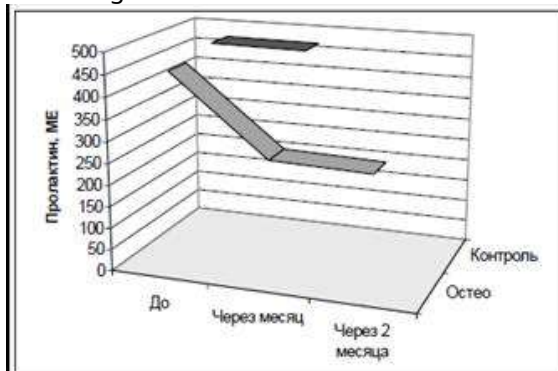
P – достоверность различия: \* p < 0.05 (вероятность 95%), \*\* p < 0.01 (вероятность 99%).

The study data presented in the table indicate a statistically significant change in the level of PRL and LH as a result of the osteopathic treatment, which indicates its effectiveness, and the absence of dynamics in the level of PRL and LH in the patients of the control group.

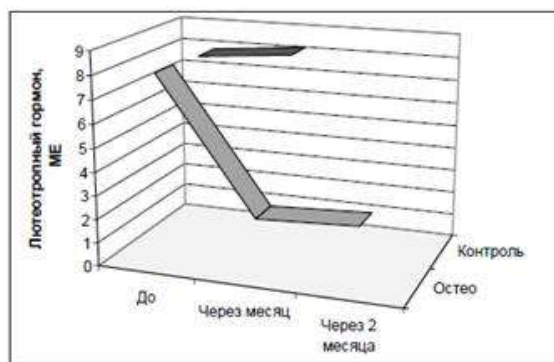
The diagram (Fig. 1) reflects the dynamics of changes in the concentration of PRL in patients of the main and control groups.

Thus, in the patients of the main group, a steady decrease in the level of PRL was observed, indicating a positive therapeutic effect, while in the patients of the control group, there were no changes in the level of PRL.

In fig. 2 shows a graph of changes in the concentration of LH in the study and control groups.



Rice. 1. Comparative assessment of changes in the concentration of prolactin in patients who received osteopathic treatment, and in the control group



Rice. 2. Comparative assessment of changes in the concentration of luteotropic hormone in patients, receiving osteopathic treatment, and in the control group

As seen from Fig. 2, against the background of osteopathic treatment, the LH levels in the main group returned to normal. The positive effect lasts for a long time. The LH level in the patients from the follow-up group remained unchanged.

Considering the above, it can be concluded that the use of the osteopathic technique of rolling the temporal bones in patients of the main group in order to correct functional disorders of the secretion of sex hormones led to a stable and long-term positive therapeutic effect: the level of prolactin and luteotropic hormone returned to normal. In all patients of the control group, no changes in the level of hormones were observed.

#### conclusions

Based on the data obtained, it can be concluded that osteopathic techniques have a positive therapeutic effect on changing the level of sex hormones and gonadotropins.

The use of the osteopathic technique of alternating rolling of the temporal bones at a low speed significantly reduces, and at a high speed - increases the level of sex hormones.

The technique of alternating rolling of the temporal bones is indicated for functional disorders of the reproductive system: hyperprolactinemia, a decrease in the level of gonadotropins.

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