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COGNITIVE DYSFUNCTION IN WOMEN AFTER THYROID SURGERY

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ABSTRACT
The state of cognitive function was studied in 23 middle-aged women in the postoperative period under general anesthesia. Of these, 12 had a history of uterine amputation. Postoperative cognitive dysfunction was detected in 8 patients, which is 66.7%, who had a history of obstetric surgery. All these patients had hypocalcemia. This study confirms the severe course and high prevalence of cognitive dysfunction in the postoperative period under general anesthesia after surgery in women with hypocalcemia.

Keywords: POCD, cognitive dysfunction, anesthesia, calcium.

Introduction

It is known that the central nervous system in close interaction with the immune and endocrine systems ensures the maintenance of homeostasis during pregnancy. Possessing the properties of integrativity and plasticity, the nervous system coordinates the processes of adaptation, which is very important for the physiological course of the gestation process [2]. Postoperative cognitive dysfunction (POCD) due to its prevalence and multifactorial nature seems to be an urgent multidisciplinary problem, the solution of which requires the participation of many specialists - anesthesiologists, neurologists, clinical neurophysiologists, pathophysiologists, medical psychologists. Patients of the gynecological profile after amputation of the uterus experience severe psychological stress, which leads to emotional problems. According to domestic researchers, the frequency of cognitive disorders after such operations ranges from 6 to 50% [1]. During gestation, the woman's body actively loses calcium, which "takes" the developing fetus. This substance is necessary for the formation of the skeleton of the unborn child, laying teeth, nails. In many pregnant patients, hypocalcemia is detected, which must be immediately eliminated. In a woman during the premenopausal period, the synthesis of estrogen decreases, and with it calcium actively "leaves" from the body. Calcium ions play an important role in the process of sending nerve signals. When the body lacks calcium, nerve stimulation meets a resistance mechanism in the human body. Memory loss is one of the most serious signs of calcium deficiency [8].

According to a number of [5,6] studies, the likelihood of developing postoperative hypocalcemia after thyroidectomy in patients with diffusely toxic goiter (DTZ) is higher compared to patients who have undergone thyroidectomy for another reason. This may be due to increased metabolism, including bone tissue in DTZ in combination with rapid bone remodeling even after euthyroidism is achieved [9]. In the first months of treatment with DTZ, the concentration of parathyroid hormone (PTH) remains at a high level. This leads to the maintenance of a positive calcium balance due to its enhanced absorption

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in the renal tubules and intestines by stimulating the activity of renal 1-hydroxylase and the formation of 1,25-dihydroxyvitamin D. With the development of transient postoperative hypoparathyroidism, which can be detected up to 68% of cases, patients are more susceptible to postoperative hypocalcemia due to a violation of the compensatory mechanisms of increasing calcium concentration [13]. In recent years, the causes of the development of such complications as postoperative hypocalcemia have been studied [3,4]. According to the literature, the proportion of transient hypocalcemia after thyroidectomy reaches 30% [7,11,10], and the permanent form of hypoparathyroidism, according to the results of multicenter studies, is observed with a frequency of up to 10.5% [12]. Violations of calcium metabolism and clinical manifestations of hypocalcemia lead to serious changes in the body and significantly reduce the quality of life of operated patients.

The Purpose of the Study:

To study the state of cognitive functions in women after operations on the thyroid gland under conditions of general anesthesia, wounds that have undergone a history of uterine amputation.

Material and Methods

A study of the state of cognitive functions after surgery on the thyroid gland under conditions of general anesthesia was conducted in 23 women, of which 12 women with a history of uterine amputation. The age of the patients ranged from 37 to 53 years.

1-2 days before and after 5-7 days in the postoperative period, a standardized neurological examination, neuropsychological testing (short-term memory, attention, mental performance, intellectual lability) was performed. All patients received standard preoperative preparation, premedication and intensive postoperative therapy in accordance with the disease for which surgical intervention was performed. All patients underwent introductory anesthesia with ketamine at the rate of 2 mg / kg of weight, the basis of anesthesia of fentanyl with droperidol, with the use of muscle relaxants and ventilation in the normoventilation mode. The average duration of anesthesia was 1h 35 min ± 11 min. During anesthesia, all patients had stable hemodynamics, pulse oximetry indicators were within normal limits. Breathing after leaving the state of anesthesia sleep was independent.

Result and Discussions

When testing cognitive functions in the observed 12 patients after surgery on the thyroid gland, PCD was noted in 8 patients, which is 66.7%. If you pay attention to the fact that calcium is directly involved in the process of human mental activity, in the second in diseases of the thyroid gland, its metabolism is often disturbed[8], it turns out that out of 23 patients with POCD, 14 were patients with hypocalcemia, which is 60.8%, and among 12 patients with uterine amputation and a history of hypocalcemia, 8 had 66.7%, that is, who had POCD.

The clinical picture of early PCD in the patients observed by us was expressed by a decrease in mental performance, stability of attention, pace and volume of short-term memory, intellectual lability, which was the cause of their social and domestic maladaptation, a decrease in daily life activity.

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Thus, general anesthesia has a negative effect on the state of cognitive functions in patients with a history of uterine amputation and especially with hypocalcemia.

Inference

The results of this study obtained by us made it possible to identify the occurrence of early PCD in patients after surgery on the thyroid gland.Women with a history of uterine amputation with thyrotoxicosis constitute a risk group for the development of PCD.

The practical significance of the concept of POCD is the possibility of early diagnosis of cognitive disorders and early initiation of neuroprotective treatment and with simultaneous correction of hypocalcemia in the postoperative period.

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