

The women, having worked at the AGCD, have been divided into 4 groups, depending on the length of working service at this enterprise. The women, having had the length of working service less, than 1 year (e.g. 45 persons) have been entered into the first group. The average inhibin – A level in the blood serum on the 3-rd – 5-th day of the menstrual cycle has been made up $17,6 \pm 6,1$ pg/ml (e.g. 8,8 – 22,2 pg/ml) in this group. The women with the length of working service at the AGCD from 1 year up to 2,5 years (e.g. 43 persons) have been entered into the second group. The average inhibin – A level in the blood serum on the 3-rd – 5-th day of the menstrual cycle has been made up $13,5 \pm 4,3$ pg/ml (e.g. 8,4 – 18,2 pg/ml) in this group. The women with the length of working service at the AGCD from 2,5 years up to 5 years (e.g. 49 persons) have been entered into the third group. The average inhibin – A level in the blood serum on the 3-rd – 5-th day of the menstrual cycle has been made up $9,8 \pm 6,1$ pg/ml (6,8 – 17,5 pg/ml) in this group. And, at last, the women with the length of working service at the AGCD more, than 5 years (e.g. 28 persons) have been entered into the fourth group. The average inhibin – A level in the blood serum on the 3-rd – 5-th day of the menstrual cycle has been made up $7,3 \pm 3,9$ pg/ml (5,3 – 15,5 pg/ml) in this group.

The statistical analysis has shown, that the reliable change of the serum inhibin – A level is not being registered at the women with the length of working service at the AGCD up to 2,5 years. The reliable ($p \leq 0,05$) decrease of the inhibin – A level in the blood serum is being registered at the more prolonged length of working service at the gas processing enterprise and the productions, which have been connected with it.

Thus, the received data testify, that the oxidation stress (Trizno N.N., 1996, Rezaev A.A., 2002) exerts the negative influence upon the women's endocrine system, and it causes the factors imbalance, having regulated the ovulation processes, and, having caused by the natural gas of the Astrakhan gas condensate deposit (AGCD), but more exactly, by the hydrogen sulfide, having contained in it. The sufficiently prolonged lag period presence between the contact beginning with the gas and the registered violations is permitted to hope, that the organized prophylactic arrangements in a right way will help to avoid the fertility violations.

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INFLUENCE OF DRINKING WATER QUALITY ON BLOOD PARAMETERS

Shubina O.S., Smertina N.A.

*Mordovian State Pedagogical Institute
Saransk, Russia*

One of the global problems in the 21st century is to provide population with good-quality drinking water. The problem is especially acute in big cities.

The aim of our research was to study, how the quality of drinking water influences the hematological blood properties.

As a biological test object in our experiment, we used white outbred mature female rats (body weight 180-200 g). The experiment lasted 1 month. The animals were divided in two groups. The first (control) group included 15 female rats, which received bottled still water «Aqua Minerale» that has a balanced macro- and microelement content, according to the Russian sanitary standards. The second (experimental) group also contained 15 female rats, which drank the tap water provided by the city water facilities of Saransk in the Republic of Mordovia. The analysis of tap water's mineral content revealed, that a number of parameters exceed the maximal permissible concentration (MPC), for example: water hardness (8,22 mg/l; MPC – 7 mg/l), fluorine (1,85 mg/l; MPC – 1,5 mg/l), iron (0,34 mg/l; MPC – 0,3 mg/l), magnesium (72,9 mg/l; MPC – 40 mg/l), sodium and potassium (201,45 mg/l; MPC – 200 mg/l).

As a result, it was stated, that the animals from the experimental group showed no significant difference in appearance compared with the control group. However, we have observed a slightly higher agility of the animals that consumed the water with a higher level of macro- and microelements. Hematological blood analysis showed, that the erythrocyte content of blood in the experimental group was 11,7% higher than in control, leucocytes – 54,2% higher, hemoglobin – 4,2 % higher, erythrocyte sedimentation rate – 70 % higher, total protein – 19,4% higher, urea – 4,3% higher, creatinine – 113% higher ($p \leq 0,05$).

To sum up, the study results prove, that higher content of macro- and microelements in drinking water influences the hematological properties of blood and general health condition.

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