THE INFLUENCE OF CHEMICAL TERATOGENIC FACTORS ON THE PERMEABILITY OF THE BLOOD-TESTIS BARRIER FURTHER EMBRYOGENESIS

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Introduction. Ethanol as a chemical teratogen has a negative impact on such a process as embryogenesis. This fact is the main reason why it is so essential to study the consequences of the human body exposure to teratogenic factors [1].

Objectives. To study the influence of chemical teratogenic factors on spermatogenesis.

Materials and methods: there were fifteen clinical cases I led on the basis of special referral center «Men's advice» in which patients of different age took part in order to identify the degree of their alcohol consumption. The analyses of the seminal fluid aimed at evaluating the quality of spermatozoa were also made through the identification of their form, number and motility to assess male fertility. According to WHO, safe dose of alcohol for men is 30 ml and there should also be 2 sober days a week. Consequently, the patients were separated in 3 groups: group 1 — «people addicted to alcohol», consuming alcohol more than 600 ml per month; group 2 — «light-to-moderate drinkers», 120–600 ml per month; group 3 — «non-drinkers», less than 120 ml per month.

Results. 3 patients (aged 31, 32, 34) of group 1 had a low number of gametes — insufficient to identify the pathologies of spermatozoa. Two other patients (aged 27, 34) from the same group had 45–40 mln/ml spermatozoa. There were identified multiple sperm pathologies (94–96% of the total germ cell number): with a tail pathology 34, 15%, with a head pathology 48, 39%. In addition, I revealed a contributing factor, such as smoking. Patients (aged 26, 26, 32, 41, 42) of group 2 had 16, 41, 17, 15, 40 mln/ml spermatozoa. The germ cells had numerous pathologies (85, 80, 87, 80, 91%), with a tail pathology: 35, 24, 41, 17, 18%, with a head pathology: 30, 46, 33, 50, 45%. Among other contributing factors smoking, hypothermia and parotitis were identified. Patients (aged 28, 32, 32, 33, 39) of group 3 had a normal content of spermatozoa (85, 64, 46, 84, 70%). Morphological abnormalities accounted for 68, 80, 78, 73, 73%. 21, 18, 30, 22, 29% spermatozoa were with a tail pathology; with a head pathology: 37, 20, 41, 44, 35%. Contributing factors such as smoking and hypothermia were also revealed.

Conclusion. An increased number of degenerated gametes and various forms of sperm pathology, a decrease or impairment of their mobility are thought to have developed due to malnutrition of Sertoli cells of the blood testis barrier caused by excessive and prolonged use of ethyl alcohol. Without special treatment over time male reproductive dysfunction will not recover at all or will be restored to a small extent [2].

References:

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