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THE EFFECTS OF ALCOHOL ON THE INTERNAL ORGANS OF HUMANS AND ANIMALS (LITERATURE REVIEW)

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Abstract:

Alcoholism is now officially recognised by doctors as a disease that alters the physical and mental condition. Alcohol abuse has a negative effect on the functioning of most organs and systems in the body as a result of the toxic effects of ethanol. Among the visceral manifestations of chronic alcoholism, damage to the digestive tract, liver and cardiovascular system predominate. Alcohol abuse is a universal risk factor for the onset and severe course of chronic diseases of the digestive organs and one of the causes of early disability in the young and most able-bodied population.

Keywords: alcohol, internal organs, morphology

RELEVANCE OF THE STUDY:

A report by the World Health Organisation (WHO 2018) condemning the consumption of alcohol globally. It is a sad statistic regarding alcohol 'killer' that 5.3% of deaths worldwide are directly related to alcohol. This means that about 1 out of every 20 people die each year from alcohol. This is more than all deaths from domestic violence and AIDS (including tuberculosis) combined. Among the deadly diseases caused by alcohol addiction are gastrointestinal disorders (21%) cardiovascular diseases (19%), cancer, infectious diseases, diabetes and others, as well as traffic accidents, acts of violence and suicides (27%).

Regardless of the country, it is men who drink the most: a total of 237 million people worldwide are affected by alcoholism, of whom only 46 million are women. Regardless of gender, the alcohol-related death rate among young people is as high as 13.5%.

A WHO study has found that this is the result of the government's anti-alcohol policy, and in particular the increase in excise duties on alcohol and the establishment of a minimum price for vodka. This measure, alas, does not save the country from the problem of counterfeit alcohol and the mortality rate associated with it. According to Rosstat, not only the coronavirus but also alcohol and mental disorders contributed to the 2020 death toll, with over 50,000 alcohol-related deaths in a year. In Russia, 50,435 people died of alcohol-related causes in 2020, follows Rosstat data from 2019, with 47,427 deaths caused by alcohol.

Lithuania turned out to be the country with the highest alcohol consumption per capita, with its residents drinking an average of 12.3 litres of alcohol per year. The Organisation for Economic Development and Cooperation "Health in a nutshell". Russia is in the list of ten "most drinking countries" and is in seventh place with 11.1 litres. Austria (11.8 litres) and France (11.7). The Czech Republic (11.6 litres) and Luxembourg (11.3 litres) round out the top five.

Alcohol dependence has increased significantly in recent years among children and young people under 30 years of age. About 82% of people aged 12 to 22 years old, consume alcoholic drinks with some frequency. Statistics on child alcohol consumption are even more disappointing. The average age at which a teenager begins to drink alcohol is 14. Alcoholic drinks (including beer) are consumed daily or every other day by 33.1% of males and 20.1% of females. The rate of alcohol abuse in schools is 15.7%, 24.4% in vocational schools, 33.7% in technical schools and colleges, and 32.4% in higher education institutions. [5,9]. According to Rosstat, during the last 15 years in Russia the incidence of alcoholism (F10.2-F11) among teenagers has increased from 18 to almost 21% per 100,000 of population, in comparison with the year 2000 [3,7].

Today, more than 25 out of every 1,000 adolescents are registered for alcohol abuse. Recent unfavourable situation with regard to alcohol abuse is evidenced by significant increase of alcohol psychoses among adolescents, 8 times during the last 10 years of the XXI century. These figures are a prognostic indicator, as alcohol psychosis is quite rare in adolescence and chronic alcoholism needs at least 2 to 3 years to develop [8,12]. Teenage alcoholism is not very common because, as a disease, alcoholism

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develops over a period of time before reaching adulthood. The most pressing problem at this age is early alcoholism, which leads to the formation of alcoholism by the age of 20 to 22. Early alcoholisation involves exposure to intoxicating doses of alcohol before adolescence. Typically, the clinical manifestations of alcoholism at age 18 develop more rapidly than in adults [1,6].

According to statistics, the age of underage drinkers in Russia is declining rapidly. Over the past decade, the average age of first try-outs has fallen to 15.4. In reality, exposure to alcohol often begins at age 11 or 12 [2,4].

More and more often, patients are admitted to the treatment and prevention center with an aggravated stage of alcoholism, i.e. mental or physical dependence. Alcohol abuse is one of the most important risk factors for the emergence of new diseases and worsening the prognosis of the existing ones. Alcohol abuse during childhood and adolescence has been found to cause: health problems including accidents and injuries; cardiovascular disease; liver disease and alcohol psychosis; social problems including crime, violence, family breakdown, learning disabilities, work problems and suicide [10].

More recently, 'addictive behaviour' has become an increasingly common precursor to chronic alcoholism. Addiction means "addiction", "addiction to something", "perverse tendency". Addictive behaviour is defined as abuse of addictive substances before physical dependence has developed (4,14). Aggression is characteristic of adolescents addicted to alcohol, as a natural state of functioning and mental retardation. Because of their lack of life experience, under the influence of alcohol, adolescents are incapable of self-control and the 19-year crisis of adolescence can manifest another psychological characteristic of intoxication: cruelty. According to Vysotskaya T. V., Levchenko A. A. [2017] analysis of statistical data in the Russian Federation for 2016 on crime caused by alcohol testifies: 55% of thefts were committed against alcohol intoxication, 80% of robberies, robberies in statistics 70%, rape 80%, and murder 80%. The main danger of mass phenomenon of alcohol addiction of children is that any dose of alcohol can be very dangerous for an unformed organism. Alcoholism is usually a systemic pathology, [15] accompanied by damage to various organs and tissues to varying degrees.

Given the toxic effects of alcohol, many diseases can develop in a teenager after a few drinks. Puberty is characterized by a number of anatomical and physiological changes in the body, which is a kind of fertile ground for the rapid development of alcohol-related pathology. The degree of alcohol intake, the form of alcohol use, the frequency and concentration of alcohol, and the body's response to its intake are important considerations [3,4]. Alcohol dependence in adolescence takes an average of 34 years to develop. Clinical manifestations such as withdrawal symptoms appear 13 years after the onset of regular alcohol consumption. A distinctive feature of early alcoholism is its dependence on the preobjective features of the adolescent, in particular the type of personality accentuation. For example, when a child is of the epileptoid type, he or she quickly develops an increased anger, tends to mix alcohol with other intoxicants (acetone, glue) and to use alcohol surrogates [16].

The danger of childhood alcoholism lies in the fact that it is in adolescence when personal identity is formed. The relevance of the issue is reflected in a wide range of publications. The social damage, manifested in all its negative variety, is reduced to the following: criminalization of society; deformation of social values; deterioration of demographic indicators (including early mortality and reduction of fertility in the near future) [17]. Alcohol consumption is a social problem in Central Asia. Authorities in these countries regularly organise campaigns to reduce alcohol consumption and improve the health of citizens. Nevertheless, the problem remains acute and data for the region show interesting figures and trends [11,16].

Alcohol abuse is now officially recognised by physicians as a physically and mentally altering illness. Alcohol abuse affects the function of most body organs and systems through the toxic effects of ethanol. Among the visceral manifestations of chronic alcoholism, damage to the digestive tract, liver and cardiovascular system predominate.

The pathomorphological changes developing in the internal organs in chronic alcoholism are attributed to the direct and indirect effects of alcohol [14]. It should be noted that the severity of the clinical picture in this category of patients is determined not only by the dose of ethanol ingested, but is largely due to organ and system damage due to chronic alcohol intoxication (CAI). Late diagnosis is one of the reasons for high frequency and severity of somatic complications due to alcohol intoxication [6]. The vast majority of severe health disorders due to alcohol use are caused by systematic excessive alcohol intake, representing CAI.

The resulting pathology may occur as if not directly related to alcohol and is not of alcoholic nature (hypertension crises, arrhythmias, pneumonia, seizure or respiratory distress syndrome, gastrointestinal bleeding, etc), which requires identification of the true cause of the disease to avoid inappropriate or incompatible with systematic alcohol intake. [13]. According to Smirnov V. V. (2018), many countries use medical and social diagnostic techniques to find

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optimal solutions for the treatment and recovery of people with alcohol dependence. These techniques, among others, are aimed at eliminating adolescent and child alcoholism, as these very population segments are joining the ranks of alcohol addicts every year [12].

Diagnosis of chronic alcoholism is a difficult task in the practice of any doctor and not only because patients tend to deny or underestimate the actual volume and frequency of alcohol consumption. CAI is not always accompanied by clinically evident alcoholism, leading to an underestimation of the alcoholic nature of health seeking. The diagnosis of this kind of condition, in a number of cases, is based on the results of a forensic chemical examination. The lesion of organ systems in CAI causes a chain of pathological processes leading to serious structural and functional disorders in organs and systems, which are accompanied by restructuring of metabolic processes, thus leading to decompensation of regulatory and protective systems of the whole organism [9].

Under conditions of endogenous intoxication caused by excessive alcohol consumption a special place belongs to gastrointestinal tract microbiota which reacts by qualitative and quantitative changes to the organism in different conditions of vital activity, health and disease [2].

According to the results of biomedical studies of human microbiota, in particular - gut microbiota, evidence has been obtained confirming the association of disorders of gut biocenosis with a wide range of diseases [17]. Original experiments performed on animal models have shown the influence of changes in the taxonomic composition of the microbiota on the pathogenetic processes of most diseases. Accumulated data indicate the ability of alcohol to change the composition of the gut microbiota [12]. The crucial role of the ethanol metabolite acetaldehyde in impaired gut barrier function has been established [11].

The health and demographic consequences of excessive alcohol consumption are manifested by a decline in general health, an increase in morbidity and premature mortality, which, in turn, contributes to their early initiation into alcohol. The social consequences of drunkenness and alcoholism are wide-ranging. The problem of alcoholism is a whole complex of social aspects that affect all spheres of normal functioning of society, which are studied not only by medical workers, but also by specialists of other directions [18]. Diagnostic problems, with all the variety of studies on the pathogenetic links of alcoholism formation, are associated with certain problems with the classification of this nosology. Currently, there is no clear, scientifically based concept of alcohol dependence syndrome development, even fewer publications dealing with etiopathogenesis of chronic alcohol intoxication, their differential diagnosis. Most of the works only highlight morphological lesions of certain organs, however the results of the presented works can not be applied to solve the problems of diagnosis and correction of alcohol intoxication treatment in humans.

At the same time in domestic and foreign literature there are practically no systematized scientific data on morphofunctional changes of the digestive tract, especially the stomach.

CONCLUSIONS:

Thus, in this connection it seems relevant to study morphofunctional features of rat stomach structure and its changes at chronic alcohol intoxication, as well as: to determine detoxification properties of biological correctors in experiment at alcohol intoxication of rats in ontogenesis by separate and combined application. Introduce new clinical and diagnostic methods of determination of alcohol intoxication in different regions of the Republic of Uzbekistan. To identify modern and effective methods of struggle against.

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