Results and discussion. In micropreparations of the heart, we saw that in all cases – the epicardium is stratified, the vessels of fat under it are full-blooded. Cardiomyocytes are mostly hypertrophied, some dystrophically altered. Around the vessels and interstromally large amount of connective tissue. Capillaries and veins of uneven blood supply. Intramural arteries are sclerosed, uneven blood supply. In 40% of cases there were changes on the part of the kidneys - the capillaries of the glomeruli and vessels of the intermediate tissue are full-blooded, the arteries are sclerosed. Microscopy of the brain in 10 cases out of 18 revealed the following changes: the soft meninges are stratified, its vessels are full-blooded, the arteries are sclerosed. In brain tissue perivascular and pericellular spaces are expanded. Capillaries and veins are full-blooded. Neurons are dystrophically altered. The arteries are sclerosed. The expressed atherocalcinosis of a wall of a vessel of a basis of a brain was revealed.

Conclusion. Thus, the predominant sites of atherosclerotic plaques are the vessels of the base of the brain, the carotid arteries, the basilar arteries, and the vessels of the heart. Prolonged process with the development of frequent spasms causes ischemia of the brain and heart, due to which there is neuronal dystrophy, atrophy of the cerebral cortex and dystrophic processes in the heart.

USE OF NUTRIENT MEDIA IN LABORATORY DIAGNOSTICS

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Introduction. For the in vitro cultivation of microorganisms, special substrates are needed - nutrient media. In the environment, microorganisms carry out all life processes; feed, breathe, multiply, etc. The use of nutrient media is the basis of microbiological work, and their quality often determines the results of the entire study.

Aim. To study the properties, purpose, current approaches to the use of sources in the development of nutrient media and the impact of growth indicators on the receipt, use and storage of nutrient media.

Materials and methods. Analysis of literature sources by research topic.

Results and discussion. Nutrient media are of exceptional importance in microbiology. In laboratory conditions, the microorganisms are cultured on nutrient media.

Proper selection of the composition of the nutrient medium provides the opportunity to isolate microorganisms, obtain pure cultures, study their biological properties, identification, contributes to the rapid and correct diagnosis of infectious diseases. The physiology of microorganisms is diverse, diverse and their specific nutrient requirements. Despite the existing set of environments, studies are being conducted to optimize them and to create new ones based on modern ideas about metabolism of certain types of microorganisms, to modernize existing production of nutrient media, and to introduce nanotechnology into production. Environment suitable for all microorganisms does not exist.

Artificial media consisting of products of animal or vegetable origin are widely used for practical research. Many microorganisms develop well in artificial environments, as they usually have all the components necessary for growth and development (eg, meat-peptone broth, meat-peptone agar). Artificial environments are mainly used to support cultures of microorganisms, diagnostic purposes, biomass accumulation.

By purpose, the environment is divided into universal, elective, special, selective and differential diagnostic. Universal media are those used for the cultivation of many bacteria (peptone meat agar – for cultivation of mesophilic aerobic and optional anaerobic microorganisms, and Saburo agar – used for cultivation of yeast and molds). Elective environments on which microorganisms of a particular species grow faster, more intensively, outperform other bacteria in their development (1% alkaline peptone water). Selective media that, by adding certain components (bile, paints, antibiotics, etc.), are able to inhibit the development of certain types of microorganisms, but do not affect other species. Differential-diagnostic environments - a large group of environments that allow to determine certain biochemical properties of microorganisms and to differentiate them. They are divided into media for determination of proteolytic, peptolytic, sucrose, hemolytic, lipolytic, reducing properties (environments Endo, Levin, Ploskireva, Hiss).

By the consistency of the medium can be liquid, semi-liquid, solid, bulk. Determination of the composition of the nutrient medium involves taking into account biophysical factors such as pH, temperature, flow and removal of molecular oxygen, which are critical for the growth of any bacterial culture.

Nutrient media are the basis of microbiological work and their quality often

determines the results of the study. Therefore, in the selection of environments, it is necessary to take into account both the requirements of germs for the substances necessary to maintain their vital functions, and their ability to carry out in these conditions the metabolism between the cell and the environment.

Development of nutrient media, and especially dense, for cultivation of different types of microorganisms allowed to obtain pure cultures and to make a laboratory diagnosis associated with the elucidation of the systematic position of microorganisms, to study their cultural, biochemical, antigenic, virulent properties, to study the spectrum of action of chemotherapy and chemotherapy used for the purpose of preventive, ongoing and final disinfection, work on the development of vaccines.

For the optimization and improvement of nutrient media use: the addition of various nutritional supplements and growth promoters; search for new raw materials rich in proteins for the preparation of nutrient bases, among which a special place is given to protein hydrolyzate (raw materials are obtained from soybeans, other legumes and grain waste in the production of alcohol); development of ways and methods of improving the quality of raw materials used for the preparation of microbiological nutrient media, aimed at increasing its biologically active components. However, in recent years, the problem of reducing the standard of nutrient media has been acute. This is due, first of all, to the decline in the quality of the products of natural origin used in the composition of the nutrient media, due to the complex ecological situation and anthropogenic impact on the environment.

Particular attention is paid to the criteria for the quality of nutrient media.The main biological criteria for the quality of nutrient media are their growth and selective properties, which are determined by microorganisms and standard nutrient media. Ready-to-use environments with a manufacturer's certificate are used as standard, as well as high-quality laboratory-certified environments. The end result of the quality of the prepared nutrient medium can be affected by many different points: change in pH, poor sterilization, overheating, drying, improper storage. Therefore, the control of the quality of nutrient media should be carried out at all stages of the technological process, from the moment of purchase of the medium to direct use in the analysis.

Conclusion. Nutrient media are used in laboratory diagnostics of microorganisms for isolation of pure culture, study of their biological properties, identification, promotes fast and correct diagnostics of infectious diseases. Their quality match significantly affects the accuracy of the experiment. Growth indicators of nutrient media influence the quality of laboratory tests and are necessarily taken into account in the experiment.