CREATION OF ARTIFICIAL LIVER: TECHNOLOGIES, DIRECTIONS

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Background. The artificial liver system (ALS) is a therapeutic method and an important direction in biomedical research by which an external device is used to replace or support liver functions in patients with acute or chronic liver failure, requiring liver transplantation.
Objective(s). Synthesis of current technologies and research directions regarding the creation of artificial liver systems, which support the life of patients with acute and chronic liver failure.
Materials and methods. A review of 32 bibliographic sources from the specialized literature of the last 10 years was carried out in the databases Google Scholar, PubMed, National Institutes of Health (NIH), BioMed Central (BMC), Springer Link and ScienceDirect, with reference to technologies and research directions of artificial liver systems (ALS).
Results. There are three main categories of ALS: 1.) non-biological artificial liver (NBAL) – MARS, Prometheus, SPAD, SEPET, which operate on the principles of dialysis and adsorption. 2.) bioartificial liver (BAL) - ELAD, BLSS, which integrate hepatocytes (porcine, human, tumor HepG2 and its derivative C3A, immortalized, stem cells: embryonic (ESCs), induced pluripotent (iPSCs), human mesenchymal (MSCs)) in bioreactors to reproduce the liver's biosynthesis and detoxification functions. 3.) hybrid artificial liver (HAL) - HepatAssist, MELS, which combines efficient detoxification of NBAL with metabolic functions of BAL.
Conclusion(s). Artificial liver systems increase survival rates among patients with acute or chronic liver failure on the waiting list for liver transplantation, while in people with preserved liver regeneration capacity, they help restore liver function.
Keywords: artificial liver, liver failure, NBAL, BAL, HAL

ANTI-DOPING INTERVENTIONS AS AN ESSENTIAL INSTRUMENT IN PROMOTING ETHICAL VALUES AND PRESERVING THE INTEGRITY OF CLEAN SPORT.

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Background. Doping in sports remains a significant global challenge, with implications not only for the physical and mental health of athletes but also for the ethics of competitions. The "cancer" of world sports has spread across all disciplines, being the most predominant cause of athlete suspensions.
Objective(s). Highlighting the role of anti-doping interventions and elucidating the need to boost proper conduct through the implementation of educational strategies and awareness programs.
Materials and methods. A focused review of the specialized literature was conducted using Google Scholar and the databases PubMed, Research for Life, and Medline, numbering 217 sources, from which 23 scientific articles were selected. The study analyzed the effectiveness of anti-doping programs worldwide, as well as the identification of major current tendencies.
Results. The implementation of a worldwide anti-doping program has, on average, notable positive effects, evidenced by a consistent and significant reduction in susceptibility to doping by 6.3±2.4%. Globally, between 2018 and 2020, the trend of consuming nutritional