

values of the medium the extragents polarizing acting during the process of isolation of the compound from the blood serum). Pyroxicam has alkaline properties; it can be extracted from an alkali medium. We used chloroform as an extraagent, which carries a specific character for the compounds in unionized form from biological fluids. The pH value is important, which gives us the opportunity to isolate pyroxicam from biological fluids, its passage from ionized form in a molecular one, which encourages the efficiency of extraction with lipophilic solvents. The pyroxicam was isolated from blood serum after acidulation with oxalic acid (pH2.0-2.5) and the proteins sedimentation with threochloroacetic acid, then extracted from alkali medium with chloroform. Alkalic extracts underwent spectrophotometric studies at a wave length 247 nm. We applied silicosis plaques on a thin layer within chromatography in the following system of solvents: Chloroform: Acetone (4:1) Rf=0.51; Ethylacetate: Methanol: Ammoniacal solution 25% (85:10:5) Rf=0.17; Ethylacetate Rf=0.38. These methods can be applied in chemical toxicological analysis practice. Acetone (4:1) Rf=0.51; Ethylacetate: Methanol: Ammoniacal solution 25% (85:10:5) Rf=0.17; Ethylacetate Rf=0.38. These methods can be applied in chemical toxicological analysis practice.

Nanopharmacology and the 21st Century Revolution

Sofia Dolghier

Academic adviser: Sergiu Cerlat, M.D.

State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Republic of Moldova

The 21st century is dominated from a revolutionary new technology - nanotechnology. The term Nanotechnology was first introduced in 1959, by Richard Feynman that winning Nobel Prize for Physics in 1965. Nanoparticles are the main product of nanotechnologies, and they may have organic and inorganic structures, the size being less than one hundred nanometers (10-9m). These technologies open the new perspectives and new opportunities for all sciences also in medicine. The new direction based on nanotechnology methods - nanopharmacology will obtain significant advances in areas such as diagnostic, regenerative medicine and pharmacological therapeutics. Nanopharmacology can be defined as the application of nanotechnology to develop and discovery of new methods to delivery drugs. In April 2006, the journal Nature Materials estimated that 130 nanotech-based drugs and delivery systems were being developed worldwide. More and more new drugs, which are highly effective against certain diseases, especially cancer are face-off lot problems as bad absorption or severe side effects. With nanotechnology-based drug delivery systems, important improvement on pharmacokinetics and pharmacodynamic parameters of drugs will take place. Clinical used demonstrate a broad variety of useful properties, such as longevity in the body, increased solubility, specific targeting to certain disease sites and increased drug concentration in it, enhanced intracellular penetration, contrast properties allowing for direct carrier visualization in vivo, stimuli-sensitivity, and others. Also the use of nanotechnology will serve for a more accurate control of doses, which will decrease significantly drug toxicity and increase safety. Some of those pharmaceutical carriers have already made their way into clinic, while others are still under preclinical development. The next generation of pharmaceutical nanoparticles combining different properties and allowing for multiple functions. In recent years, nanotechnology has found innumerable applications in the field of medicine - from drug delivery systems, nanorobots and cell repair machines to imaging, nanoparticles and nanonephrology. But the most important future applications of nanotechnology will be with construction of medical nanorobots, for example, there were technical analyzed some types of medical nanorobots: Respirocytes (artificial mechanical red cells), Pharmacytes (ideal drug delivery nanorobot). To conclude we can say that nanotechnology open new possibilities for pharmacology and medicine with preservation and improvement of human health and extension of natural biological structure and function using molecular tools and molecular knowledge of the human body.