Materials and methods: Melting point determining device Kruss KSP1N & KSP1D, drying cabinet, UV-VIS spectrophotometer, solvents and reagents in accordance with the European Pharmacopoeia.

Results: In collaboration with the laboratory of the Institute of Organic Synthesis Chemistry of RM, were synthesized 80 compounds substituted derivatives of 5-aryl-1 ,3,4-oxadiazoles and thiourea, that were tested for anti-mycobacterial activity against M. tuberculosis in the Southern Research Institute, Birmingham, USA. In the series studied, a major activity (MIC 98%) was recorded for the monosubstituted compound of thiourea with allyl fragment. This compound is shown to be a white powder, with yellow tinge or colorless crystals, specific odor and a bitter taste. There have been made physical and physico-chemical analysis to determine the properties of the compound studied: melting point (119.6°C); solubility - the substance is practically insoluble in water and ethanol, slightly soluble in methanol, soluble in chloroform, acetone, DMSO, DMFA, and acetonitrile. It was determined the water content and the loss on drying (Karl Fischer titration reagent and drying oven), which showed water content of the minor (0.0009% and 0.001%, respectively), which also indicates that the substance is not hygroscopic.

Conclusions: Determined physicochemical properties of the studied compound will provide the support in the development of analytical methods and standardisation for this product.

Keywords: tuberculosis, anti-mycobacterial, tiodiasol, melting point

25. THE EFFECT OF NANOSILVER ON THE WOUND PROCESS

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Introduction: Analysis of the literature showed a constant increase in the number of methods to influence the course of wound healing, indicating their lack of effectiveness. Development of applications of nanotechnology in medicine opens wide prospects for their use in the treatment of wounds. The use of nanoparticles of metals, especially nanosilver, is of particular interest in this field.

Purpose: To investigate the effect of particles of nanosilver on the kinetics of cell populations on the skin wound model.

Materials and methods: 30 Wistar rats weighing 180-230g, were used during the experiment. All the animals were divided into 2 groups. In the first, the control group, the rats wool area was shaved under ether anesthesia, a 2 cm long wound deep to the subcutaneous fascia was applied using a scalpel, the defect was sutured. In the second group, silver (Ag) 30nm was applied on the wounds respectively. Nanoparticles Ag 30nm were produced by the Scientific Research Institute of Physics ONU Mechnikov. The obtained histologic sections were stained with hematoxylin-eosin and Van Gieson.

Results: As a result of the experiment in the second group, the decrease of leukocyte and macrophage infiltration was identified in the early stages of healing compared with the control which indicates the anti-inflammatory effect of nanoparticles of silver on the wound. Increase in the number of myofibroblasts indicates better constriction of the injury. The number of fibroblasts and new vessels on day 5 indicates the prevalence of the proliferative activity. The results of study on day 7 and later indicate more rapid wound healing.

Conclusions: The treatment of wounds using nanomaterials promotes the formation of tissue of histoarchitectonics closest to the intact skin.

Keywords: nanomaterials, wound, healing