

71

Anti-Influenza Activity of a New Coordination Compounds**M.V. Matyushkina¹, T.L. Grydina¹, I.I. Seifullina², V.V. Godovan¹, E.E. Martsinko², E.A. Chebanenko², L.M. Mudryk³, A.S. Fedchuk³***¹Odesa National Medical University, Odesa, Ukrenia, ²I.I.Mechnikov Odesa National University, Odesa, Ukrenia,**³I. I. Mechnikov Ukrainian Anti-plague Institute, Odesa, Ukrenia*

The creation of the needed chemical-therapeutic reserve which could provide the prophylactics and treatment in the case of the significant increase of influenza infected persons is the actual task of the contemporary medical science. Now intensively studied properties of metal complexes for detection of new biological properties to create a new anti-infection drugs.

New coordination compounds of cobalt bis(citrato)germanate (Ge) and cobalt bis(citrato)stannate (Sn) have a low toxic that gives the prospect for further research and implementation in medical practice.

Methods of the compounds activity studies in vitro on the model tissue culture of chorio-allantoic covers of 10-12-days chicken embryos (CAC) and on the model of MDCK cell culture were used. Influenza viruses A/PR/8/34 (H1N1), A/Hong Kong/1/68 (H3N2) and avian influenza H5N3 were solved in cultural media in the presence (experiment) and in the absence of compounds (control) to a concentration of 10,000(1x10⁴ log₁₀) TID₅₀. Control and experimental samples were incubated at 37°C for 24h. The number of infectious virus in the samples was determined by titration on fragments of CAC. Also antiviral activity was determined by infecting monolayers of MDCK cells with 10-fold dilutions of viruses A/PR/8/34(H1N1), A/Hong Kong/1/68(H3N2) in presence (experiment) or absence (control) of Ge and Sn. Control and experimental samples were incubated at 37°C for 72h. Presence of virus was registrated in haemagglutination test. Antiviral activity of Ge was significantly higher to Sn against the strain of influenza virus A/Hong Kong/1/68(H3N2). Ge inhibited the reproduction of the virus to 5,25 IgTID₅₀, Sn – 4.33 IgTID₅₀. Ge and Sn inhibit reproduction of A/PR/8/34(H1N1) at lower concentrations. Sn inhibited the reproduction of H5N3 bird virus is much stronger than Ge. Sn showed more pronounced antiviral activity against virus A/Hong Kong/1/68(H3N2) and A/PR/8/34(H1N1) in cell culture MDCK.

So, new coordination compounds have antiviral activity against human influenza virus strains A/Hong Kong/1/68 (H3N2) and A/PR/8/34 (H1N1), as well as the avian influenza virus H5N3