SCIENTIFIC CONFERENCE WITH INTERNATIONAL PARTICIPATION

PRECLINICAL TESTING OF ACTIVE SUBSTANCES AND CANCER RESEARCH

WITH INTERNATIONAL SYMPOSIUM ON ANTI-CANCER AGENTS, CARDIOTOXICITY AND NEUROTOXICITY

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ABSTRACT BOOK

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ABSTRACT BOOK

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P3 *IN VITRO* ANTITUMORAL ACTIVITY OF PLATINUM(II) COMPLEXES WITH *O,O'*-DIALKYL ESTERS OF (*S,S*)-ETHYLENEDIAMINE-*N,N'*-DI-2-(4-METHYL)PENTANOIC ACID ON CLL CELLS

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Objectives: Platinum(II)-based drugs (carboplatin and oxaliplatin) show similar cytotoxicity but less side effects than cisplatin, even in tumours insensitive to cisplatin (advanced colorectal tumours). As cytotoxicity of these platinum(II) compounds has been proven, a great number of new platinum complexes are continuously being prepared and tested for antitumor activity. We tested cytotoxicity of Platinum(II) complexes (1 – 4) with bidentate *N,N'*-ligands, *O,O'*-dialkyl esters (alkyl = ethyl, *n*-propyl, *n*-butyl and *n*-pentyl), of (*S,S*)-ethylenediamine-*N,N'*-di-2-(4-methyl)pentanoic acid on human chronic lymphocytic leukemia cells. Methods: The effects of the tested complexes on freshly isolated CLL cells viability after 72 hours of action were determined using MTT colorimetric technique. Mode of cell death was determined by flow cytometric analysis of treated cells stained with Annexin V FITC and 7-AAD. Results: Activity of 1 – 4 Platinum(II) complexes toward CLL cells was significantly higher in comparison to cisplatin. Also, these complexes showed higher cytotoxic activity then corresponding Pd(II) complexes. The most active compound is complex 3 ($IC_{50} = 5 \pm 1$ μM). Compounds 1 – 4 are able to induce apoptosis on CLL cells with concentrations up to 125 μM, but they are highly toxic at concentration of 250 μM. Conclusion: It seems that these Pt(II) complexes could be further evaluated for eventual clinical apliacations in treatment of CLL, especially complex 3.