Preparation of NSC 631570 (UKRAIN) in the treatment of malignant melanoma

Malignant melanoma is one of the deadliest skin cancers. At the early stages of melanoma development, the patients are treated surgically, but the advanced disease is virtually incurable. Numerous clinical investigations have been conducted to improve efficiency of melanoma treatment. Nevertheless, biologists and clinicians continue working on new possible methodology of treatment and keep up to search new therapeutic agents as drug resistance is a commonly observed problem. NSC 631570 is an anticancer agent created on the basis of alkaloids from the plant Chelidonium majus. For more than 20 years, NSC 631570 had been used for cancer treatment. Monotherapy and combined application of NSC 631570 are successfully used for the treatment of malignant melanoma since 1996. The purpose of this study was to describe the experience of the use of NSC 631570 in the treatment of malignant melanoma and to disclose of some mechanisms of the preparation action. The first case report concerns successfully used NSC 631570 in combined therapy on the patient with malignant melanoma and multiple metastases in the lungs. Another representative case report regards a patient with melanoma (III stage) with long lasting remission (more than 10 years without recurrence) after the monotherapy with the drug. The preparation exerts cytotoxic effect towards the broad spectrum of tumor cells through the depolarization of mitochondrial membrane followed by apoptosis. Treatment of B16 melanoma cells with NSC 631570 at apoptogenic concentrations induced dose-dependent tumor cell death accompanied by the release of HMGB1. The levels of HMGB1 in the cell probes treated with the drug exhibited strong correlation with the levels of cell death. Treatment of B16 melanoma cells with NSC 631570 at the non-apoptogenic concentration causes an increase in TAP expression. Thus, NSC 631570 induces immunogenic melanoma cell death with the release of immunostimulating alarmin HMGB1, upregulates TAP expression, thereby increasing the immunogenicity of the tumor as a whole.

Biography

Wassil Nowicky is the Director of “Nowicky Pharma” and President of the Ukrainian Anti-Cancer Institute (Vienna, Austria). He completed the degree of Doctor Techniques. He is the Inventor of the anticancer preparation on basis of celandine alkaloids “NSC-631570”. He has more than 300 scientific articles dedicated to cancer research. He is a Member of the New York Academy of Sciences, a Member of the European Union for Applied Immunology and of the American Association for Scientific Progress, an Honorary Doctor of the Janka Kupala University in Grodno, an Honorary Doctor of the Open International University for Complementary Medicine in Colombo, an Honorary Member of the Austrian Society with a name of Albert Schweitzer. He has received the award for Merits of National Guild of Pharmacists of America, the award of Austrian Society for sanitary, hygiene and public health services and others.