Abstract

The Cytotoxic Effect of Lysimachia savranii on the Neuroblastoma Cells †

Gonca Dönmez 1,*, Fatma Esin Kırk 2, Işıl Aydemir 3, İsmail Sari 4, Oktay Özkan 5, Ahmet Savran 6 and Mehmet İbrahim Tuğlu 7

1 Department of Medicinal Biology, Faculty of Medicine, Niğde Ömer Halisdemir University, Niğde 51240, Turkey; gdonmez@ohu.edu.tr
2 Department of Medicinal Microbiology, Faculty of Medicine, Niğde Ömer Halisdemir University, Niğde 51240, Turkey; fatmaesinkirk@ohu.edu.tr
3 Department of Histology and Embryology, Faculty of Medicine, Niğde Ömer Halisdemir University, Niğde 51240, Turkey; isilaydemir@ohu.edu.tr
4 Department of Medicinal Biochemistry, Faculty of Medicine, Niğde Ömer Halisdemir University, Niğde 51240, Turkey; isari@ohu.edu.tr
5 Department of Medicinal Pharmacology, Faculty of Medicine, Niğde Ömer Halisdemir University, Niğde 51240, Turkey; oktay.ozkan@ohu.edu.tr
6 Department of Arts and Sciences, Faculty of Medicine, Niğde Ömer Halisdemir University, Niğde 51240, Turkey; asavran@ohu.edu.tr
7 Department of Histology and Embryology, Faculty of Medicine, Manisa Celal Bayar University, Manisa 45140, Turkey; mituglu@yahoo.com

* Correspondence: gdonmez@ohu.edu.tr; Tel.: +90-388-225-2593
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Abstract: Neuroblastoma cells have been used for antitumoral mechanisms such as stopping the cell cycle and inducing apoptosis. The genus of Lysimachia is studied to determine its anti-proliferative effect. The aim of this study is to show the cytotoxic effect of Lysimachia savranii on neuroblastoma cells in vitro conditions. Neuroblastoma cells and mesenchymal stem cells were cultured and treated with the extract of Lysimachia savranii and IC50 dose was evaluated. The effects on cell viability, oxidative stress, neurite inhibition and apoptosis of Lysimachia savranii at dose of IC50 were studied. In neuroblastoma cells, the rates of eNOS and iNOS stainings used for analysis of oxidative stress were greater than mesenchymal stem cells, and the difference was statistically significant (p < 0.005). TUNEL assay to determine cell apoptosis in neuroblastoma cells was greater than mesenchymal stem cells and also the difference was statistically significant (p < 0.005). The effects of Lysimachia savranii was showed out in vitro on neuroblastoma cells and this plants can be analyzed for its cytotoxic effect in vivo models.

Keywords: Neuroblastoma; Lysimachia savranii; apoptosis; oxidative stress

Conflicts of Interest: The authors declare no conflict of interest.

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