A Transmission Electron Microscope Investigation Effects of Limonium leaves extracts on HL-60 Cell Line.

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Keywords: *Limonium effusum / Limonium globuliferum*, HL60, TEM (Transmission Electron Microscope)

Cancer is one of the most prevalent diseases worldwide. Medicinal plants are sources of important therapeutic aid for alleviating human ailments. With increasing realization of the health hazards and toxicity associated with the indiscriminate use of synthetic drugs and antibiotics, interest in the use of plants and plant-based drugs has revived throughout the world. However, a large number of medicinal plants remain to be investigated for their possible pharmacological value. Plant-derived compounds have played an important role in the development of several clinically useful anti-cancer agents. However, there is no special type of compounds for cancer therapy.

Extracts of Limonium effusum and Limonium globuliferum devoid of leaves have been used in the treatment of asthma, tuberculosis, cold, hypertension, backache, fever, hemorrhage, hepatitis, and other disorders .But recent studies of Limonium effusum and Limonium globuliferum as anticancer agents[1]. Interaction of human promyelocytic leukemia HL60cell line with using Limonium effusum and Limonium globuliferum extract were determined using TEM. They were deposit on Formvar-coated 200-300 mesh copper grids and dried. Cells were fixed with %2,5 glutaraldehyde in 0,1M phosphate buffer (pH:7,4) and left in phosphate buffered saline (PBS) overnight at +4ºC. After being embedded in Agar and stained in 2 % osmium tetroxide. Cells were dehydrated in graded ethanol. Then cells were embedded in EPON 812 epoxy. They were thin sectioned using a diamond knife to a maximum thickness of 100 nm. The sections were stained with lead citrate and uranyl acetate[2].

We postulated that, cancer cells with Limonium effusum and Limonium globuliferum extract of interaction was estimated. We aimed to investigate in cellular and ultrastructural levels if these particles were taken by cancer cells by endocytosis or not. At first stage, Cancer cells have more vitamin receptors than normal cells. HL60 cells with Limonium effusum and Limonium globuliferum of interaction was displayed on TEM. Furthermore, Transmission Electron Microscope was used to determine ultrastructure of the cells.

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DOI: 10.3217/978-3-85125-062-6-346,

M.A. Pabst, G. Zellnig (Eds.): MC2009, Vol. 2: Life Sciences,
DOI: 10.3217/978-3-85125-062-6-346, © Verlag der TU Graz 2009