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ABSTRACT BOOK
Synergistic Antitumor Effect of Irinotecan and *Portulaca oleracea* Combination on Breast Cancer (MCF-7) and Prostate Cancer (PC-3) Cells

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**Introduction:** *Portulaca oleracea* (Portulacaceae), also known as purslane, is an annual succulent leafy vegetable and has worldwide distribution. Besides its antioxidant, antimicrobial and antiinflammatory activity, the purslane has antitumor activity on cancer cells. Cancer is a disease that is very common throughout the world and has a steady rise in its incidence. Irinotecan is used against some cancer types alone or in combination with chemotherapeutic agents. In the growth of cancerous tissue, Vascular Endothelial Growth Factor (VEGF) plays an important role as a regulator of angiogenesis. Natural products, including plants, are suitable sources for reducing the side effects of cancer chemotherapeutics.

**Materials and Methods:** The aim of present study was to investigate the synergistic antitumor activity of *Portulaca oleracea* ethanolic extract and Irinotecan combination on cancer cells. Purslane leaves were dried in moisture-free conditions and extracted in ethanol. PC-3 human prostate cancer and MCF-7 human breast cancer cell lines were cultured in DMEM (1% PenStrep, 10% FBS). MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay was used to determination of cell viability. Human VEGF ELISA assay was used to measure the amount of VEGF in cancer cells. Each assay were performed in triplicate.

**Results:** The results exhibited a concentration-dependent manner in the percentage of cell viability. In MCF-7 and PC-3 cancer cells which treated with 50 µg PEE+5µM Irinotecan combination, cell viability was measured as 69.4% and 56.1%, respectively. VEGF amount significantly decreased (p<0.05) in MCF-7 and also PC-3 cells.

**Conclusion:** As a result, *Portulaca oleracea* and Irinotecan combination treatment inhibits the growth of breast and prostate cancer cells and decreased VEGF amount in cancer cells. If these results are supported by studies at the gene level, the molecular effect mechanism of this combination can be elucidated in the future.

**Key words:** MCF-7, cancer, MTT, ELISA, VEGF.