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## SHC 11. THE APOPTOTIC EFFECT OF SILIBININ ON TCC-SUB AND RT-4 HUMAN BLADDER CANCER CELLS

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Bladder cancer is one of the most frequent malignancies around the world. Bladder cancer has high rate of recurrence. Silibinin is a natural polyphenolic flavonoid isolated from seed extracts of the herb milk thistle (Silybum marianum) with antioxidant and anticancer properties. Silibinin was reported to depress cell growth and induce apoptosis in cancer cells. In this study, we aimed to investigate the inhibition of proliferation and induction of apoptosis by silibinin with the TUNEL method in human bladder carcinoma TCC-SUB and RT-4 cell lines and cells of the synthesis phase with the BrdU labeling index.

The TCC-SUB and RT-4 cell lines, are bladder cancer cell, were cultured in monolayer model. Cells were treated with silibinin at 24, 48, and 72 hours of incubation. The BrdU labeling index was used to determine the proliferation of cells. TUNEL assay were used to determine the apoptotic cells in the monolayer culture.

An IC50 dose of silibinin in TCC-SUB and RT-4 cells was 100 µM/ml at 24, 48, and 72 hours of incubation. The control group had a normal pattern of S-phase fraction and many of the TCC-SUB and RT-4 cells nuclei were observed to be positive for BrdU. TUNEL positive cells were detected after treatment with silibinin in the monolayer cultures. The dead cell count was higher in the TCC-SUB and RT-4 cell lines with silibinin applied than in the control.

We conclude that silibinin inhibit bladder cancer growth by apoptosis. Further in vivo studies are needed to confirm our findings in humans.

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