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Apoptotic changes by silibin in Ehrlich ascites tumor-bearing mouse liver

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Liver cancer has a high mortality range in the worldwide compared with other cancer types. Silibin is isolated from *Silybum Marianum* that has antioxidant effects. In this study, we aimed to clarify for the first time that the apoptotic effects of silibin on Ehrlich ascites carcinoma tumor (EAT) model in liver of Balb/c mice. Group I (Control): The saline buffer(sf) with %2 dimethylsulphoxide (DMSO) was injected intraperitoneally(i.p) to mice for 15 days. Group II(Silibin): 150 mg/kg silibin in saline with DMSO was injected i.p. for 15 days. Group III(Ehrlich): 2×10^5 unit EAT cells passaged with sf on first day and saline injected to the mice between 5th and 15th day. Group IV(Ehrlich+Silibin): EAT cells were injected on first day and 150 mg/kg silibin in sf injected between 5th and 15th day. Group V(Silibin+Ehrlich): EAT cells were injected on first day then 150 mg/kg silibin in sf injected for 15 days. Liver sections were incubated with caspase-3, caspase-8 and *proliferating cell nuclear antigen* (PCNA) antibodies and were stained by streptavidin-biotin peroxidase method. The terminal deoxynucleotidyl transferase mediated dUTP (TUNEL) method for apoptosis was performed in liver sections. Caspase-3 signals were significantly increased in Silibin+Ehrlich group compared with Ehrlich and Ehrlich+Silibin groups. Caspase-8 signals were significantly decreased in Ehrlich+Silibin and Silibin+Ehrlich groups compared with Ehrlich group. Whereas PCNA positive signals were significantly increased in Ehrlich+Silibin group compared with Ehrlich and Silibin+Ehrlich groups. TUNEL signals were significantly decreased in Ehrlich+Silibin group compared with Silibin+Ehrlich group. According to results, Ehrlich+Silibin treatment has more anti-apoptotic and anti-proliferative effects than Silibin+Ehrlich group.

Biography

Sema Bolkent graduated from the Istanbul University Faculty of Science in 1986. She finished her graduate studies with her thesis in 1989. At the same year she attended PhD program. She was awarded a scholarship to study in England by the Scientific and Technological Research Council of Turkey in 1992. In 1996 she successfully fulfilled the requirements of PhD program. She won the title of Assistant Professor in 1997. In 2006 she was issued the title of Professor. She has been working in Istanbul University Faculty of Cerrahpasa Medicine Department of Medical Biology. She has numerous published publications.

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