Silibinina pode ser útil no câncer de bexiga


Chemopreventive and chemotherapeutic effects of intravesical silibinin against bladder cancer by acting on mitochondria.


Source

Department of Urology, The First Hospital of Xi'an Jiaotong University, 277 Yanta West Road, Xi'an 710061, China.

Abstract

Intravesical chemotherapy is often used to prevent the recurrence of superficial bladder cancer after transurethral resection. A search for more effective and less toxic intravesical agents is urgently needed. We previously found the in vitro apoptotic effects of silibinin, a natural flavonoid, on high-risk bladder carcinoma cells. Here, we further explored the underlying mechanisms and examined the intravesical efficacy in the prevention and treatment of bladder cancer. Human bladder carcinoma cell line 5637, which has the same molecular features of high-risk superficial bladder cancer, was used as the model system in vitro and in vivo. Autochthonous rat model of bladder cancer induced by intravesical N-methyl-N-nitrosourea (MNU) was used to investigate its intravesical efficacy. Exposure of 5637 cells to silibinin resulted in growth inhibition and induction of caspase-dependent and -independent apoptosis, which was associated with disruption of mitochondrial membrane potential and selective release of cytochrome c, Omi/HtrA2, and apoptosis-inducing factor (AIF) from mitochondria. Silibinin also downregulated survivin and caused nuclear translocation of AIF. Oral silibinin suppressed the growth of 5637 xenografts, which was accompanied with the activation of caspase-3, downregulation of survivin, and increased translocation of AIF. Furthermore, intravesical silibinin effectively inhibited the carcinogenesis and progression of bladder cancer in rats initiated by MNU by reducing the incidence of superficial and invasive bladder lesions without any side effects, which was accompanied with proapoptotic effects. These findings identify
the in vitro and in vivo antitumor efficacy of silibinin, and suggest silibinin as an effective and novel intravesical agent for bladder cancer.

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