Antitumoral effects of an intravesically applied aqueous mistletoe extract on urinary bladder carcinoma MB49 in mice.

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The objective of the present study was to investigate the effects of a locally applied aqueous mistletoe extract (AME) on the growth of urinary bladder carcinoma MB49 in an orthotopic murine model. On day 1, a total of 4 x 10(4) tumor cells was implanted into the bladder of female C57BL/6J mice. The animals were then randomly allocated to three groups of 13 mice each. From day 11 onwards, AME was given intravesically 3 days a week for 4 consecutive weeks at concentrations related to 30 or 300 ng bioactive mistletoe lectin (ML)/ml. The animals received a total volume of 0.1 ml. In the control group, 39% of the mice survived to the end of the scheduled study period in comparison to 69% and 85% in the groups treated with 30 or 300 ng ML/ml, respectively. At necropsy, 80% of the surviving control animals showed a visible solid bladder tumor, whereas only 56% and 18% had tumors in the treated groups. In both cases, the differences were statistically significant at the high concentration in comparison to controls ($p < 0.05$). A non-significant effect was observed regarding the formation of multiple metastases (40% in controls vs 33% and 18% in the treated groups). From the results, it was concluded that under the conditions described, AME shows antitumoral activity which is considered to be mainly due to the cytotoxic properties of mistletoe lectins, the main effective constituents of mistletoe extracts.

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