Inhibitory effect of dexamethasone on Lewis mice lung cancer cells

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Received June 24, 2013
Accepted November 12, 2013
Published August 29, 2014
DOI http://dx.doi.org/10.4238/2014.August.29.4

ABSTRACT. Recent studies have found that glucocorticoids are closely associated with oncogenesis and the development of many types of tumors. The aim of this study was to observe the effect of dexamethasone on the growth and angiogenesis of transplanted Lewis lung carcinoma in mice. Lewis lung carcinoma cells were inoculated subcutaneously into the right axilla of C57BL/6 mice, and the mice were randomly divided into 3 groups: the control group, cisplatin group, and dexamethasone group. From day 7 after inoculation, all the mice were given different treatments for 10 days, and changes in xenograft tumor volumes were monitored. All mice were sacrificed on day 17, and the tumors were obtained and weighed and the tumor inhibitory rate was calculated. The expression levels of hypoxia inducible factor 1α (HIF-1α) and vascular endothelial growth factor (VEGF), as well as the microvessel density (MVD) in the tumor mass, were measured by immunohistochemistry. Tumor growth was suppressed in the cisplatin group and dexamethasone group. The weights of tumors were markedly decreased in the cisplatin group and dexamethasone group compared
with the control group (P < 0.05). The expression levels of HIF-1α and VEGF and the MVD were significantly lower in the cisplatin group and dexamethasone group than in the control group (P < 0.05). However, these levels were not significantly different between the cisplatin group and dexamethasone group (P > 0.05). Dexamethasone can effectively inhibit the growth and angiogenesis of Lewis lung carcinoma by inhibiting the expression of HIF-1α and VEGF.

**Key words:** Dexamethasone; Lung carcinoma; Angiogenesis; Cyclin D1; Proliferating cell nuclear antigen; HIF-1α