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Cancer-Associated Systemic Syndrome (CASS)?The Mechanism of VEGF in Tumor-Bearing Mice

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摘要

Background and objective VEGF plays an important role in the development of cancer. The aim of this study is to observe the structural alterations in multiple organs of high VEGF expression mice, and insight into the role of tumor-derived VEGF in the development of CASS. Methods Murine fibrosarcoma of T241-VEGF and T241-Vector tumor cells were transplanted subcutaneously in mice to construct the xenograft tumor model. The mice gross examinations were observed and the percentage of survival animals in each group is presented. The level of hemoglobin, the numbers of erythrocytes and serum concentration of VEGF in peripheral blood were analyzed. Histological analysis of liver, spleen, adrenal gland and bone-marrow were applied. Vascular networks in tumors were analyzed under a confocal microscope. Results The VEGF-expressing tumor bearing mice manifested CASS by severe anemia, hepatosplenomegaly
and loss of body weight. The survival rate of mice was decreased. The level of hemoglobin and erythrocytes in circulating blood were significantly reduced ($P<0.01$), with the increased serum concentration of VEGF. The blood vessels of tumor appeared as primitive and dilated sinusoidal vascular structures. Conclusion The tumor-produced VEGF affect multiple tissues, organs and resulted in CASS in mice model. It suggest that VEGF might be involved in the occurrence and
development of CASS. It might be helpful for anti-VEGF therapy in clinical CASS and combing anti-VEGF therapy in
advanced cancer patients.

关键词

Vascular endothelial growth factor A; Neoplasms; Cancer-associated systemic syndrome

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