

The significance of lymph node macrophages in the induction of anti-cancer immune response

Yoshihiro Komohara

Kumamoto University, Japan

It is well known that many macrophages are distributed in lympho-reticular organs including spleen and lymph node (LN). Spleen and LNs are respectively involved in the filtration of lymph and blood flow and immune responses are induced by activation of lymphocytes and natural killer cells which are dependent on antigen presenting cells (APCs) including dendritic cells and macrophages. CD169 (sialoadhesin) is a sialic acid receptor that is specifically expressed on macrophages, including lymph node sinus macrophages. Animal studies suggested that CD169⁺ macrophages in lymph nodes have tumor preventing properties; however, the role of these cells in the pathogenesis of human tumors has not been clarified. In order to determine the significance of CD169⁺ macrophages in cancer patients, we employed tissue samples from patients with malignant tumor including malignant melanoma and colorectal cancer and evaluated the relationships of this expression with overall survival and various clinicopathological factors. The high density of CD169⁺ cells was found to be significantly associated with a longer overall survival in the patients with malignant melanoma, colorectal cancer and endometrial cancer. Positive correlations were noted between the density of CD169⁺ macrophages and the density of CD8⁺ cytotoxic T cells infiltrating tumor tissues. CD169⁺ macrophages in lymph node are suggested to be involved in T cell mediated antitumor immunity and may be a useful marker for assessing the clinical prognosis and monitoring antitumor immunity in patients with malignant tumors.

Biography

Yoshihiro Komohara has completed his PhD from Kumamoto University. He is a Pathologist and currently working at Kumamoto University as an Associate Professor. He has studied tumor associated macrophages for around 10 years and has published more than 20 papers related to CD163 positive tumor associated macrophages. He has also focused on the relationship between cancer immunology and lymph node macrophages.

ycomo@kumamoto-u.ac.jp

Notes: