

Research Project Proposal
Academic year 2015-2016

Project Nº 30
Title: IMMUNOTHERAPY EN BRAIN CANCER. CHARACTERIZATION OF THE IIMUNE INTRATUMORAL INFILTRATION AND CLINICAL CORRELATIONS.
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<p>Summary</p> <p>A progressive evidence exists that systemic immunotherapy can induce an efficient antitumor response in the glioblastoma (GB).. In clinical trials, vaccination of primary or recurrent glioma patients with autologous tumour lysate-pulsed dendritic cells elicits immune responses. The dendritic cell vaccination induces a systemic T-cell response modulated by the tumor microenvironment. There are several papers that study the tissue immune infiltrate in the GB, with only a few cases and controls included in them. Our group has developed a comprehensive immunopathological and clinical study designed to evaluate the effect of vaccine on cellular immune infiltration of GB is need. By other way, it has been postulated that macrophage supports glioma growth by the release of immunosuppressive factors. The dendritic cell vaccination elicits a specific significant increase in CD8 cells in the GB. However, this immune effect produces no increase in the overall survival on the vaccinated patients. Interestingly, the CD16 positive macrophage phenotype correlated with a worse overall survival in respect with the microglia CD16 positive phenotype adjusted by other relevant clinical parameters. As a consequence, our proposal is that the CD16 positive intratumor macrophages, but not the microglia, could interfere on the efficacy of immunotherapy.</p> <p>The work consists in testing the possible interference of CD16 macrophages associated to tumor and other relevant immune factors by immunohistochemical methodology in a large series of GB of both vaccinated patients and the correspondent control patients.</p> <p>References</p> <p>1. Liau et al. Dendritic Cell Vaccination in GBM patients induces systemic and intracranial T cell responses modulated by the local central nervous system tumour microenvironment. Clin Cancer Res 2005;11:5515-5525 .</p>



2. Yu et al. Vaccination with tumour lysate-pulsed dendritic cells elicits antigen-specific, cytotoxic T cells in patients with malignant glioma. *Cancer Res* 2004; 64: 4973-4979.

POSSIBILITY OF PhD

YES *

* (PhD grant required)