Circulating lymphocytes and dendritic cells populations and subpopulations in cutaneous melanoma

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Introduction: Cutaneous melanoma (CM) is one of the most aggressive human cancers. Although is less common than basal cell and squamous cell carcinomas, CM is responsible for 80% of deaths in skin cancers, being considered one of the most metastatic neoplasms. Over 90% of cases of melanoma can be treated successfully if they are detected and treated in early stages, justifying the interest in identifying and describing the prognostic markers and evolution.
Methods: Lymphocytes and dendritic cells (DC) populations and subpopulations were quantified using flow-cytometry peripheral blood from CM patients as follow: total T cells (CD3+), B cells (CD3-CD19+), NK cells (CD3-CD16+ and/or CD56+), T helper cells (CD3+CD4+), T supressor/cytotoxic cells (CD3+CD8+), regulatory T (Tregs) cells (CD4+CD25+CD127-), myeloid (m)DC (CD11c+CD304-) and plasmacytoid (p)DC (CD304+CD11c-). The values were reported to a group of normal subjects.
Results: The main registered changes found in 70% of patients were the decreasing of percentages T-CD8+ and an elevated T-CD4+/T-CD8+ ratio in 60% of cases. T-regs values were elevated in 67% of patients, and the mean values of Tregs were significantly (p=0.008) increased in melanoma group (7.3±1) as compared to controls (5.6±1). Analysis of DC subpopulations revealed decreased values for both mDC and pDC in melanoma group (0.25±0.2 and 0.12±0.1) as compared to controls (0.41±0.2 and 0.24±0.2), but without statistical significance.
Conclusions: The cellular profile in CM suggests a reduced cytotoxic activity due to the decreasing of T-CD8+ cells and the increasing of Tregs. The activity of DC subsets (T cell stimulators) seems to be inhibited by Tregs.
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