

## **Dysfunctions and possible correction of ex vivo generated dendritic cells in lymphoma patients following chemotherapy**

**Olga Leplina, Marina Tikhonova, Alexander Ostanin and Elena Chernykh**

Institute of Clinical Immunology Siberian Branch of Medical Science, Russia

Dendritic cell (DC)-based therapy is considered to be one of the promising approaches in immunotherapy of malignant diseases, including lymphomas. Nevertheless, DCs functions may profoundly affected by chemotherapy. Therefore the purpose of the present study was to investigate the phenotype and functional activity of DCs in malignant lymphoma patients underwent chemotherapy. DCs from lymphoma patients (8 – HL; 6 – NHL) and healthy donors (n=16) were generated in the presence of IFN- $\alpha$  and GM-CSF with subsequent maturation with LPS. DC cultures from lymphoma patients were differed by lower number of CD83+ and CD25+ cells and enhanced expression of CD14; high IL-10 and low IFN- $\gamma$  production, reduced allostimulatory and cytotoxic activity. Interleukin-2, human double-stranded DNA and the complex of native proinflammatory cytokines added at the stage of maturation significantly enhanced the initially reduced allostimulatory and cytotoxic activity of patient DCs. The data obtained suggest that following chemotherapy DCs from lymphoma patients are characterized by functional impairment, that could negatively affect the efficacy of DC-based immunotherapy, and these dysfunctions may be partially corrected in vitro by culturing of DCs with various immunomodulatory substances

### **Biography**

Olga Leplina has completed her Ph.D from Novosibirsk Medical University and postdoctoral studies (M.D.) from Institute of Clinical Immunology. She is the senior researcher of laboratory of cellular immunotherapy of Institute of Clinical Immunology, Novosibirsk, Russia. She has published more than 64 papers in Russian and Europe reputed journals

ct\_lab@mail.ru