ABSTRAKT V ANGLICKÉM JAZYCE

Immunotherapy of ovarian carcinoma with dendritic cells

Anticancer immunotherapy is a therapeutical strategy aimed at elicitation and maintenance of immune responses against cancer cells. In this study we have focused on immunotherapy of ovarian cancer, because it is one of the most common gynaecological tumors with poor prognosis and high mortality. Our immunotherapy protocol involves preparing dendritic cells (DC) from monocytes isolated from patient's peripheral blood, which are subsequently pulsed with irradiated cells of established ovarian cancer cell line. These immature pulsed DC are maturated and subsequently co-cultivated with autologous T lymphocytes. The aim of this study was to demonstrate, that DC are able to elicit specific immune response after addition of suitable mature agens in combination with apoptotic ovarian tumor cells. Our observations indicate that 24 hours are sufficient for induction of tumor cells apoptosis. Additionally, we have shown that DC successfully ingested most of the apoptotic tumor cells after 4 hours of co-incubation. Furthermore, we have found out that ingestion of apoptotic cells by dendritic cells, which are stimulated with polyI:C, inhibits maturation of DC and consequently also production of cytokines IL-12p70, IL-6 and TNF-α. Whereas DC maturation rate markedly affects induction of specific immune responses, in the case of pulsed DC, in comparison with nonpulsed DC, was decreased ratio of IFN-γ+ T lymphocytes. We suppose that ingestion of apoptotic cells impaired maturation of DC induced by polyI:C and consequently diminished their capacity to stimulate specific T lymphocytes.

Key words: dendritic cells, immunotherapy, ovarian carcinoma, maturation agens, apoptotic cells, polyI:C, specific lymphocyte response