Clinical applications of recombinant virus-based cancer immunotherapy

Michel Adamina, Silvia Daetwiler, Rachel Rosenthal & Paul Zajac

Cancer immunotherapy looks back over one century of clinical applications. In spite of major advances in the comprehension of oncogenesis and treatment of cancer, malignant tumours remain a leading cause of disability and death worldwide. Since 1991, a breakthrough in immunology allowed the identification of tumour-associated antigens, opening the era of specific immunotherapy. On the other hand, recombinant virus are powerful vectors that are able to express various gene products in vivo, including cytokines and tumour antigens. Therefore, many groups have implemented clinical trials of active specific tumour immunotherapy. Phase I trials have demonstrated favourable safety profiles. However, major tumour responses remain anecdotal in heavily metastatic patients. This review will critically present and discuss the clinical achievements of recombinant virus-based cancer immunotherapy. This paper will attempt to shed some light on the perspectives opened by advanced cancer immunotherapy protocols, review the drawbacks of this approach and the reasons why it is believed that recombinant virus-based cancer immunotherapy may be of relevance in the treatment of human malignancies.

type: journal paper/review (English)
date of publishing: 9-2005
journal title: Expert Opin Biol Ther (5/9)
ISSN electronic: 1744-7682
pages: 1211-24