Induction of Cytotoxic T-Cell Response Against Hepatitis C Virus Structural Antigens Using a Defective Recombinant Adenovirus


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Abstract of:
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A replication-defective recombinant adenovirus (RAd), RAdCMV-CE1, containing core and E1 genes of hepatitis C virus (HCV) was constructed. RAdCMV-CE1 was able to express core and E1 proteins both in mice and human cells. Immunization of BALB/c mice with RAdCMV-CE1 induced a specific cytotoxic T-cell response against the two HCV proteins. This response was characterized using a panel of 60 synthetic 14- or 15-mer overlapping peptides (10 amino-acid overlap) spanning the entire sequence of these proteins. Five main epitopes were found in the core protein, four of which had been previously described either in mice or humans. One single novel epitope was found in E1. Fine mapping of this E1 determinant, showed that octamer GHRMAWDM is the minimal epitope recognized by cytotoxic T lymphocytes (CTL). The cytotoxic T-cell response was H-2d restricted, lasted for at least 100 days, and was mediated by T cells with the classic CD4+ CD8+ phenotype. This work demonstrates that replication-defective recombinant adenoviruses can efficiently express HCV proteins and are able to induce an in vivo cytotoxic T-cell response against a diversity of epitopes from HCV antigens. These vectors should be taken into consideration in the design of vaccines and also as a means to stimulate specific T-cell responses in chronic HCV carriers. (Hepatology 1997; 25: 470-477.)

Serum eosinophil peroxidase (EPO) levels in asthmatic patients

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Eosinophil granular proteins are a useful eosinophilic activation marker in asthmatic patients. In this study, the eosinophil peroxidase (EPO) levels were assessed in different stages of bronchial asthma, in 123 patients suffering from asthma, classified as mild (n=49), moderate (n=49), and severe (n=25), according to the International Consensus Report on Diagnosis and Treatment of Asthma, as well as in 27 healthy controls, with the aim of evaluating the importance of this protein as a severity marker in bronchial asthma, and its possible correlation with parameters such as anamnesis, respiratory function tests, and peripheral blood eosinophil count, and also with some allergologic diagnostic tests, both in vivo and in vitro. The geometric