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REFERENCE: *Cancer Detection and Prevention*22(1):S-227,1998

TITLE: Production of a Synthetic General Cancer Vaccine Which Augments the Concentration of Antimalignin Antibody In Vivo

AIM: Antimalignin, an IgM autoantibody against specific cancer cell aglyco peptide epitopes of malignin (J Cell Biochem S19:172-185,1994), in 8,090 cases and controls demonstrates a specific early immune response in cancer regardless of cell type (abstract this meeting). Present in small quantities in the serum of all healthy individuals, antimalignin increases in concentration with age in proportion to the increase in the risk of cancer, is present in greater concentrations in healthy individuals of families with a high frequency of cancer, does not increase in concentration in non-cancer disorders, and increases in concentration early in malignancy on first occurrence and recurrence. Because antimalignin is highly cytotoxic to cancer cells in vitro (at picograms or femtomoles per cell), and is quantitatively related to the survival of cancer patients, the aim was to determine whether 1) isolated 'biological source' malignin or 2) synthetic fragments alone of malignin or recognin epitopes can function as vaccines to stimulate/augment this immune response by producing an elevation of antimalignin antibody in vivo. **METHODS:** Either 1) 'biological source' malignin or 2) synthetic fragments (malignin subjected to hydrolysis and mass spectroscopy to identify the amino acid sequence of constituent fragments and these fragments duplicated by de novo synthesis), were injected into normal rabbits to determine whether the baseline antimalignin antibody concentration could be increased. **RESULTS:** Specific significant increases in antimalignin antibody were obtained with either 'biological source' malignin or only synthetic fragments. **CONCLUSIONS:** A synthetic general (independent of cell type) cancer vaccine has been produced. Preventive and therapeutic trials with this synthetic vaccine will be undertaken. **KEYWORDS:** Synthetic general cancer vaccine; antimalignin antibody; human cancer; quantitative immune response.