



PIC QUESTION OF THE WEEK: 10/24/05

Q: Please provide some information on *lymphoma* vaccines.

A: Unlike preventive vaccines such as influenza, tetanus or polio, vaccines for lymphoma are designed to treat the disease (therapeutic vaccines). Clinical trials are currently underway to determine the effectiveness of *lymphoma* vaccines in patients with non-Hodgkin's lymphoma (NHL). On average, 65,000 new cases of NHL are diagnosed each year. This disease of lymphoid tissue is broadly divided into B-cell and T-cell subtypes and classified by the histology and aggressiveness (low to high grade) of the tumor. It is more common and less responsive to drug treatment than Hodgkin's disease. Current management of NHL includes chemotherapy and radiation. Treatment is based on the particular grade and cell type of the patient's malignancy. Response rates are improving, but relapse occurs often and is of particular concern because 90% of NHL patients die of tumor-related mortality within seven years of diagnosis. Experimental lymphoid vaccines offer a possible treatment option. The concept of therapeutic vaccines has developed during the past two decades and made possible by the tremendous advances in our understanding of the immune system. Even though other immunotherapeutic approaches have shown positive results, the attractiveness of therapeutic cancer vaccines is that they are easily administered to outpatients and generally do not cause significant adverse effects. In theory, if the immune system becomes responsive to injected lymphoma cells, it acquires sensitivity to the cancer already present. In one phase III clinical trial co-sponsored by the National Cancer Institute (NCI), a patient-specific idiotype vaccine (BiovaxID®) has shown preliminary benefit in those with the disease. Preparation of the vaccine is described in the figure above. It is administered monthly by subcutaneous injection and may be repeated for periods ranging from 3 to 24 months. Reported adverse effects are limited to injection site reactions and transient flu-like symptoms. If marketed, the vaccine would provide a novel therapy for patients with non-Hodgkin's lymphoma. More information on patient eligibility for these studies may be obtained from the National Cancer Institute (<http://www.cancer.gov/clinicaltrials/results/lymphoma-vaccine0999>).

References:

- BioVest International. BiovaxID: Therapy for non-Hodgkin's lymphoma. <http://www.biovest.com/prodservices.html> (accessed 2005 Oct 20).
- Timmerman J, Davis AF. Getting the facts on lymphoma vaccines. <http://www.lymphoma.org> (accessed 2005 Oct 14).

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