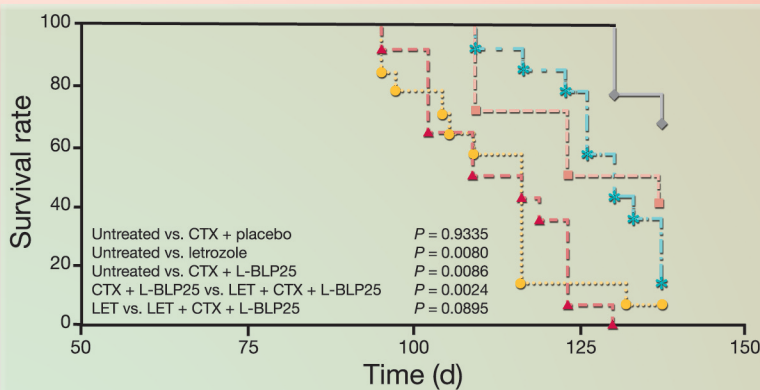


L-BLP25/Letrozole Combination for Breast Cancer

Mehta *et al.* _____ Page 2861

Mehta and colleagues examined the immunomodulatory effects and antitumor activity of letrozole when combined with L-BLP25 in the human MUC1-expressing mammary tumor mouse model. L-BLP25 is currently the most advanced MUC1-specific liposomal vaccine in clinical development. The majority of breast cancers overexpress the MUC1 glycoprotein, making MUC1 a logical target for immunotherapy. The aromatase inhibitor letrozole, when combined with L-BLP25, showed a significant survival benefit. This is the first evidence that immunotherapy combined with hormonal therapy has efficacy in a breast cancer mouse model. The present study supports clinical development of L-BLP25 immunotherapy combined with letrozole as a potential new treatment and prevention strategy for breast cancer.



Effect of L-BLP25 combined with letrozole on overall survival.

Survival was assessed on day 137 for untreated (●), letrozole 0.8 mg/kg (■), cyclophosphamide (CTX) + placebo (▲), CTX + vaccine (*) and letrozole + CTX + vaccine (◆). For all groups, $n = 14$, except for letrozole + CTX + L-BLP25, where $n = 13$.

Tumor Infiltrating Immune Cells in Merkel Cell Carcinoma

Sihto *et al.* _____ Page 2872

Merkel cell carcinoma (MCC) is a rare, aggressive skin cancer. Merkel cell polyomavirus (MCPyV) DNA is found in approximately 70% of MCCs, and in such tumors MCPyV infection likely has a role in tumorigenesis. Sihto and colleagues found that high numbers of T cells, macrophages, and natural killer cells were associated with presence of MCPyV DNA in MCC, but patients with high tumor T-cell counts turned out to have favorable survival regardless of whether cancer contained MCPyV DNA or not. This finding suggests that host immune defense influences MCC patient outcome irrespective of the tumor MCPyV infection status.

Methylation Patterns in Prostate Cancer

Mahapatra *et al.* _____ Page 2882

To identify DNA methylation biomarkers for diagnosis, prediction of recurrence, clinical recurrence, and systematic progression of prostate cancer, Mahapatra and colleagues profiled the methylation of 14,495 genes in 238 prostate cancer tissues. The sensitivity and specificity of methylation for 25 genes from tumor versus matched normal, recurrence versus nonrecurrence, systemic recurrence versus local recurrence, and 7 genes from clinical recurrence versus biochemical recurrence groups were shown. Validation of the selected genes from the different groups confirmed the microarray results. This study shows the significance of genes as diagnostic and prognostic biomarkers of prostate cancer.

Metformin and Pancreatic Cancer Survival

Sadeghi *et al.* _____ Page 2905

A large percentage of patients with pancreatic cancer (80%) have concurrent diabetes or impaired glucose tolerance. To explore whether use of the antidiabetic drug metformin, a promising antitumor agent, affects the clinical outcome of pancreatic cancer, Sadeghi and colleagues conducted a retrospective study in 302 diabetic patients with pancreatic cancer. The authors observed that overall survival time was 4 months longer in metformin users, with a 32% reduced risk of death and 2-fold higher 2-year survival rate than those in the control group. This finding should prompt future research to test the hypothesis that metformin can be used as a supplemental therapy in the treatment of pancreatic cancer.