Speaker abstracts

Proffered Paper 2

A Phase I/II trial of adjuvant therapeutic vaccination in resected prostate cancer patients using autologous dendritic cells loaded with mRNA from primary prostate cancer tissue, hTERT and survivin.

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Prostate cancer patients diagnosed with high Gleason score (â‰¥ 8) and large tumors (â‰¥T2c) are considered high-risk patients and >50% will develop an early biochemical relapse. Presently, there is no curative therapy available for patients with biochemical relapse. Based on these findings we initiated in January 2011 a Phase I/II dendritic cell (DC) vaccine study. Patients included have pathological stage pT2 - pT3b, Gleason score 7b-10, pN0, pN+ or pNx and postoperative PSA < 0.2 Âµg/L. Following surgery autologous tumor cell lines were established from each patient using an in-house culturing method. mRNA from the tumor cell line was produced and used for DC vaccination in combination with mRNA hTERT and mRNA Survivin. DCs were differentiated from enriched monocytes, cultured for 2 days with IL4 and GM-CSF and matured with Jonuleit-maturation cocktail for 24 hours. The matured DCs were transfected separately with the 3 different mRNAs and then frozen and stored until use. The vaccination regimen includes one vaccine per week for four weeks, followed by monthly â€œvaccine boostâ€ during the first year, then every 3 months the second and third year. Recently, a novel 3 days DC protocol using a TLR7/8-agonist maturation cocktail was clinically implemented. Based on own clinical experiences, we decided to use this new generation of DCs in the ongoing trial on prostate cancer. Of the 30 patients to be treated in this trial 15 patients have been given the standard fast DCs and 3 of planned 15 have been vaccinated with the new type of DCs. Only 2 of 18 patients have experienced PSA relapses 3 and 9 months after start of vaccination. We conclude that the study is feasible and utmost promising. Extensive immune monitoring is ongoing taking advantage of the established autologous tumor cell lines from all patients.