

248 **INTRATHECAL DELIVERY OF DENDRITIC CELL VACCINE ERADICATES TUMOR GROWTH AND PROTECTS AGAINST LEPTOMENINGEAL DISEASE RE-INOCULATION IN IMMUNOCOMPETENT HER2+ AND TRIPLE NEGATIVE BREAST CANCER LMD XENOGRAFT MODELS**

Vincent Law, Krithika Kodumudi, Colin Snyder, Brian Czerniecki, Peter Forsyth\*, H. Lee  
*Moffitt Cancer Center and Research Institute, Tampa, FL, USA*

**Background** Leptomeningeal disease (LMD) occurs in approx. 5% of patients with breast cancer (BC) with median survival of 2-4 months. Here we investigated intrathecal (IT) delivery of HER2/HER3-dendritic cell vaccine (DCV) in BC-LMD murine model.

**Methods** HER2+ and triple negative breast cancer (TNBC) murine BC cells were injected into CSF of BALB/c mice to render LMD. We developed an murine Ommaya device that mimics the Ommaya reservoir in patients for the IT administration of DCV into CSF.

**Results** HER2-/HER3-DCV was able to rescue disease mice (71% in HER2+ breast cancer-LMD and 28% in triple negative breast cancer-LMD) with complete tumor regression. Surviving mice also exhibited adaptive immunity against tumor rechallenge.

**Conclusions** Our preclinical data supported a clinical trial (submitted) of the IT delivery of DCV in breast cancer patients with LMD.

**Ethics Approval** For animal use, Institutional Animal Care and Use Committee (IACUC) approval was obtained from the University of South Florida (IS00010398) as well as been reviewed by the Department of Defense Animal Care and Use Review Office.

<http://dx.doi.org/10.1136/jitc-2022-SITC2022.0248>