

Oral Abstract 26: Combination oncolytic virotherapy and STAT3 inhibition improves long-term survival in an immunocompetent ovarian cancer murine model

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Topic
Ovarian

Objectives

Oncolytic virotherapy offers tumor-selective cytolysis and immune priming, but efficacy is limited by an immunosuppressive tumor microenvironment. STAT3 signaling is a key mediator of immune suppression in ovarian cancer. We evaluated whether combining NSC.CRAAd-S-pk7 with CpG-STAT3 inhibition improved long-term survival in an immunocompetent murine model.

Methods

Immunocompetent C57BL/6 mice bearing ID8 intraperitoneal tumors were treated with NSC.CRAAd-S-pk7, CpG-STAT3 ASO, or combination therapy. Treatments were administered intraperitoneally. Tumor burden and survival were assessed, and tumor and peritoneal samples were analyzed for immune cell infiltration and activation.

Results

Both NSC.CRAAd-S-pk7 and CpG-STAT3 ASO monotherapy reduced tumor burden and improved survival compared to controls. Combination therapy produced the most pronounced effect, with a significant extension in median survival compared to control (123 vs 57 days, $p < 0.005$), representing an approximately two-fold improvement in long-term survival.

Conclusions

These findings support our hypothesis that dual targeting of tumor cells with NSC.CRAAd-S-pk7 and STAT3-mediated immunosuppression enhances anti-tumor efficacy in an in vivo murine model. This combination strategy supports further translational development of oncolytic virotherapy with immune-modulatory approaches to overcome the immunosuppressive tumor microenvironment.