Induction of anti-tumor CD8+ T cells and prominent infiltration of lymphocytes with a Th1 polarizing signature to pleural mesothelioma tumor after intratumoral injection of ONCOS-102

INTRODUCTION

Adenoviruses have a unique ability to prime and boost immune responses by causing immunogenic cancer cell death and subsequent release of tumor antigens for antigen presenting cells, resulting in the priming of potent tumor-specific immunity.

Safety, easy manipulation of the genetic backbone and possibility to produce the product easily in large scale make adenovirus an excellent therapeutic agent.

ONCOS-102

Selective replication in cancer cells

Local production of immunostimulatory cytokine GM-CSF for enhanced induction of anti-tumor immune response

Phase I trial schedule and patient characteristics

RESULTS

Local treatment with ONCOS-102:

- Induced a prominent infiltration of CD8+ T cells to tumor
- Induced systemic tumor-specific CD8+ T cell response
- Induced functional CD8+ T cells with effector phenotype
- Resulted in decrease in metabolic activity in PET scan 7.5 months after treatment initiation
- Safety with only gr 1-2 AEs with the exception of gr 3 fever

CONCLUSIONS

ONCOS-102 is:

- Active immunotherapy
- Reverses tumor phenotype from T cell negative to T cell positive
- Induces TILs showing effector phenotype with Th1 type signature
- Elicits tumor-specific CD8+ T cell response
- Targeted immunotherapy
- Patient specific, unique tumor epitopes targeted with one product
- Optimal for combination modalities
- Potentially sensitizes tumors to other immunotherapies such as checkpoint modulators