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Innovational combinational therapies utilizing tumor-targeted oncolytic and adoptive T-cell therapy for lung cancer and mesothelioma

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Our laboratory has developed innovative tumor-targeted biological therapies – a) oncolytic viral therapy, genetically-engineered replicative-competent attenuated viruses that can selectively infect, replicate, lyse cancer cells sparing normal tissue, and b) Adoptive T-cell therapy, engineering patient's own immune cells to target a specific antigen expressed on cancer cells sparing normal tissues. Following extensive preclinical development, we now are conducting phase I clinical trials to assess safety and maximum tolerable dose. To further the incorporation of these novel therapies, we have strong preclinical data combining these therapies with current standard of care chemotherapy and radiation therapy. More importantly, our innovative approach includes administering this biological therapeutics regionally into the pleural cavity by use of tunneled pleural catheters. Our unpublished data shows that early therapeutic agent activation by regional administration facilitates better local as well as systemic immune responses. These innovative combinational therapies will facilitate better tumor eradication and long-term prognosis.

Biography

Prasad S Adusumilli has completed his M.B.B.S. at the age of 22 years from Guntur Medical College and postdoctoral studies from AIIMS, New Delhi, Southampton University, UK and from Memorial Sloan Kettering Cancer Center (MSKCC) and University of Pittsburgh, USA. He is now the Deputy Chief of Thoracic Surgery at the MSKCC and Member in Center for Cell Engineering at MSKCC. He has published more than 100 papers in reputed journals including JCO and JNCI. He is invited to be the Deputy Chief Editor for Molecular Therapy Oncolytics Journal (Nature Group Publication) serves as an editorial board member of PLOSOne.

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