Biomedical Research & Therapy

ISSN: 2198-4093
www.bmrat.org

ORAL

Combination of vaccine-strain measles and mumps viruses enhances oncolytic activity against human solid malignancies: special focus on prostate cancer

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Abstract

Oncolytic viruses (OLVs) including measles and mumps viruses (MeV and MuV) have a potential to serve as a therapeutic option for cancers. We have previously shown that the combination of MeV and MuV synergistically kills various human haematological cancer cells. This study aims to investigate the anti-tumor activity of MeV, MuV and MeV-MuV combination (MM) against human solid malignancies in vitro and in vivo. The results showed that MeV, MuV and MM combination targeted and effectively killed various cancer cell lines of human solid malignancies but not normal cells. Notably, MM combination demonstrated a greater anti-tumor effect and prolonged survival in a human prostate cancer (PC3) xenograft tumour model compared to MeV and MuV. MeV, MuV and MM combination significantly induced the expression of immunogenic cell death (ICD) markers and enhanced spleen-infiltrating immune cells such as macrophages, natural killer and dendritic cells. Our study demonstrated that MM combination is a promising option for treatment of human solid malignancies and suggested that MM could induce immunogenic cell death of malignant cells and activate immunity against cancers.

Keywords

Oncolytic virus, Measles virus, Mumps virus, human solid malignancies, cancer target.

Funding

References

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Competing interests: The authors declare that no competing interests exist.

Received: 2017-04-30
Accepted: 2017-06-10
Published: 2017-09-05

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