Spaceflight and immune system

Ghorban Khodayar, Dadmanesh Maryam
Department of immunology and infectious diseases, School of Medicine,
AJA University of Medical Sciences

Spaceflight is a unique stress model impacted consistently or intermittently by myriad stresses, including psychosocial and physical stresses, high G forces at the time of launch and landing, increased radiation, sleep deprivation, microgravity and nutritional factors. This multitude of factors alters the immune system and could lead to compromised defenses against infections and tumors, although it is not likely to be a serious concern for short-duration orbital space flight.

There are clear indications from the existing data that space flight can have profound effects on the immune system. This study discuss about components of the immune system which affected by space flight. Alterations in T cell-mediated responses and natural immunity are found to be the most consistent and robust.

Keywords: adaptive immunity, innate immunity, spaceflight.