



Decreased NK-Cell Cytotoxicity After Short Flights on the Space Shuttle

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BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 28 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. Cytotoxic activity of natural killer (NK) cells and cell surface marker expression of peripheral blood mononuclear cells (PBMCs) isolated from 11 U. S. astronauts on two different missions were determined before and after 9 or 10 days of spaceflight aboard the space shuttle. Blood samples were collected 10 and 3 days before launch, within 3 hours after landing, and 3 days after landing. All PBMC preparations were cryopreserved and analyzed simultaneously in a 4-hour cytotoxicity Cr-release assay using NK-sensitive K-562 target cells. Compared to preflight values, NK-cell cytotoxicity (corrected for lymphopenia observed on landing day) was significantly decreased at landing (P 0.0125). It then apparently began to recover and approached preflight values by 3 days after landing. Consistent with decreased NK-cell cytotoxicity, significant increases from preflight values were found in plasma adrenocorticotrophic hormone at landing. Plasma and urinary cortisol levels did not change significantly from preflight values. Expression of major lymphocyte surface markers (CD3, CD4, CD8, CD14, CD16, CD56), determined by flow cytometric analysis, revealed no consistent phenotypic changes in relative percent of NK or other lymphoid cells after 10...



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