

【P-10】**Endosulfan induces T cell leukemic cell cycle arrest**

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Various pesticides known to cause immune suppression and increase susceptibility to infection in animals. It has been suggested that increased apoptotic cell death leading to altered T cell ratios, and loss of regulatory cells in critical numbers leads to perturbations in immune function. The present study was designed to define the mechanism by which an organochlorinated pesticide endosulfan induces human T cell death using human Jurkat T cells as an in vitro model. Endosulfan treatment resulted in the accumulation of cells specifically at G1 phase of the cell cycle. Mitotic index measured by PI staining clearly showed that the cells were transiently accumulated in G1 phase after endosulfan treatment. The transient G1 phase accumulation was accompanied by a transient decrease in the levels of cyclin E and Cdk2 kinase activity. We also found that endosulfan markedly increased Cdk-inhibitor p21^{WAF1} and p53 protein level. The current study suggests that endosulfan may induce growth inhibition in a human Jurkat T cells by inhibiting cell cycle progression through transient G1 phase accumulation.

Keyword : Endosulfan, T cell, cell cycle arrest.