NK-Immunomodulation by Active Hemicellulose Compound (AHCC) in 17 Cancer Patients

Mamdooh Ghonewn, Ph.D.

Drew University of Medicine and Science, Department of Otolaryngology, Head and Neck Surgery, Los Angeles, Calif. USA,
2nd Meeting of the Society for Natural Immunity. Taormina, italy May 1994

The present study was designed to examine the immunomodulatory function of active hemicellulose compound (AHCC). AHCC is an extract *of Mycellia basidiomycora* which was originated by hybridization of several types of mushrooms. Seventeen cancer patients with different advanced malignancies participated in the study: ovarian carcinoma (3), multiple myeloma (2), stomach (2), breast *(5),* lung (2), rhabdomyosarcoma (1), and prostate (2). Patients received AHCC 3 g/day orally for 2-6 months. NK cell activity was examined by 4-hour Cr release assay against sensitive K562 and resistant Raji tumor cells. Results showed significant enhancement of NK activity against K562 as early as 2 weeks (2-to 3-fold of base-line). Activity was further increased at subsequent time periods up to 6 months post treatment with AHCC. NK activation was also detected against Raji cells) but at later stages, i.e. 1-2 months (2- to 10-fold). AHCC appears to activate NK cells by increasing their binding capacity to tumor cell targets (2-fold), and also by increasing NK cell granularity as examined microscopically, in cytospin preparation, and biochemically. On the other hand, flow cytometry analysis showed no significant change in the percentage of NK cells (CD3-, CDI *6+ICDS6+),* We conclude that AHCC is a potent immunomodulator and may be useful in immunotherapy of cancer.