

# AHCC: A Novel Nutritional Immunotherapy for Breast Cancer

by Jaime Salas Rushford, MD

**P**atient interest in integrative and holistic approaches for the treatment of breast cancer has grown consistently over the last decade. One of the most promising directions in the field of integrative oncology is “nutritional immunotherapy” – the use of natural food-based compounds to stimulate the use of the body’s own immune system to help fight cancer.

Japan has long been both an R&D leader and an early adopter of nutrition-based approaches to disease treatment and prevention. Focusing on the healthful properties of foods prevalent in the Japanese diet, such as green tea, soy and mushrooms, Japanese researchers have identified bioactive compounds contained in those foods and developed purified, concentrated, all-natural “superfoods” that can be used alongside mainline therapies.

One such “superfood” is AHCC, or *Active Hexose Correlated Compound*, derived from the mycelia (the cottony, tangled “roots”) of hybridized Basidiomycete (shiitake) mushrooms fermented in rice bran. Used in over 1,000 cancer clinics in Japan and around the world, AHCC has become one of the leading nutritional immunotherapies and its use in the United States is finally catching on. But still, few oncologists and cancer patients know about AHCC, and there is an urgent need to educate the public about this unique compound.

**How AHCC Works** Several human clinical studies have shown that AHCC increases the number and activity of specific white blood cells, including Natural Killer (NK) cells, Dendritic (DC) Cells and T-Cells, while also stimulating the production of cytokines – chemical messengers that activate a variety of immune cells.

❖ NK cells play the key role of identifying abnormal and tumorous cells and destroying them.

❖ DC Cells are responsible for breaking up harmful antigens and turning them over to T-Cells, which help remove them from the body.

❖ Cytokines such as Tumor Necrosis Factor- $\alpha$  (TNF-alpha) and Gamma Interferon help induce the death of abnormal cells, inhibit the transformation of normal cells into cancer cells and control tumors.

A clinical study on 30 elderly patients conducted at Yale Medical School and published in the journal *Human Immunology* showed that AHCC stimulated the production of cytokines. A randomized, double-blind placebo-controlled study on 21 healthy adults, which was published in the journal *Nutrition and Cancer*, showed that AHCC caused an increase in the number and function of dendritic cells. Another study performed at Drew University showed a 250% increase in the NK cell activity of 11 cancer patients and demonstrated the suppression of tumor cell growth and a decrease in tumor cell counts.



AHCC is a “superfood” derived from the mycelia (cottony, tangled “roots”) of hybridized medicinal mushrooms.

**AHCC and Breast Cancer** In a clinical study published in the *International Journal of Integrative Oncology*, Drs. Yoichi Matsui and Yasuo Kamiyama looked at the progress of patients with metastatic breast cancer supplemented with AHCC over a 6-year period. The researchers found that Stage IV breast cancer patients taking AHCC had longer survival rates than did Japan’s national average for this stage of disease. The researchers concluded: “[This] retrospective study in breast cancer patients ... suggests

that AHCC might contribute to improving the prognosis in Stage IV” disease.

AHCC has also been clinically shown to benefit patients with other types of cancer. In a landmark 10-year study of 269 liver cancer patients published in the prestigious *Journal of Hepatology*, patients taking AHCC showed a higher survival rate and a lower tumor recurrence rate than those who did not receive supplementation. In another 7-year study on 245 patients with gastric or colon cancer, published in the *Journal of Natural Medicine*, AHCC was shown to improve the cumulative 5-year survival rates of patients with early and mid-stage cancers as compared with other institutions.

## The Use of AHCC for the Reduction of Chemotherapy Side Effects

AHCC is also being used in conjunction with chemotherapy drugs to reduce their side effects. In a study at the Tajima Clinic in Sapporo, Japan, Dr. Reiki Ishizuka reported improved quality of life and immune function in patients with breast, lung and colon cancers who were taking AHCC along with their conventional chemotherapy treatments versus those who did not receive supplementation. Another study, performed in mice and published in the *Journal of Experimental Therapeutics and Oncology*, showed that AHCC could reduce the side effects of several popular chemotherapy drugs including doxorubicin, cisplatin and paclitaxel.

**AHCC Safety** The safety of AHCC is validated by numerous studies and by 20 years of use. A clinical study lead by Dr. Thomas Walshe of Harvard Medical School, published in the *Journal of Nutritional Science and Vitaminology*, established the safety of AHCC in healthy adults at a dosage of up to 9 grams day – 3 times the recommended dose. An important study by Dr. Judith Smith at the MD Anderson Cancer Center looked at the potential for a drug-drug interaction with AHCC and leading chemotherapy agents. The study concluded that, with the exception of tamoxifen (which utilizes the same metabolic pathway as AHCC called “CYP 450 2D6”), “the overall data suggest that AHCC would be safe to administer with most other chemotherapy agents.”

For study references and information, visit [AHCCresearch.org](http://AHCCresearch.org). ■