

Exploratory Clinical Research on Active Hexose Correlated Compound in the Adjuvant Chemotherapy of Breast Cancer

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[Purpose] Anthracycline and taxane have been used as adjuvant chemotherapy in treating breast cancer patients. However, significant toxicities and side effects can occur in patients during these treatments. Previous studies demonstrated that Active Hexose Correlated Compound (AHCC) reduced side effects of chemotherapy, such as bone marrow suppression, hepatotoxicity, and nephrotoxicity. We conducted a retrospective research to explore the beneficial effects of AHCC on the alleviation of adverse events in the adjuvant chemotherapy of breast cancer patients.

[Method] We retrospectively analyzed 41 adult breast cancer patients who underwent adjuvant chemotherapy which is the anthracycline-containing regimen followed by one of three different taxane based regimens, between October 2004 and March 2011 at the Nagumo clinic Tokyo. Patients who had taken AHCC during chemotherapy were analyzed as AHCC group and others were analyzed as the control group. The primary comparisons were the occurrence of adverse events according to NCI-CTCAE v4.0. We compared the worst grades of adverse events in each cycle of the treatments with the use of the Fisher's exact tests and its longitudinal changes with the use of generalized estimating equations (GEE). We further analyzed the usage of granulocyte colony-stimulating factor (G-CSF) between the two groups by the Fisher's exact test as the secondary assessment.

[Result] The GEE method showed that AHCC group had significantly lower neutrophil events than the control group (the odds ratio 0.30; $p=0.016$). Furthermore, AHCC group had a significantly lower usage of G-CSF than the control group. AHCC group had higher adverse events in γ -GTP, although it was not statistically significant.

[Conclusion] AHCC has the potential to improve neutropenia induced by chemotherapy for breast cancer and reduce the usage of G-CSF during the chemotherapy. The mechanism of action and beneficial effects of AHCC on the patients receiving chemotherapy shall be further investigated.