CHEMOTHERAPY

Treating older breast cancer patients

The 5 year results of the US Oncology Research Trial 9735 study showed that docetaxel plus cyclophosphamide was superior to doxorubicin plus cyclophosphamide as adjuvant treatment for early-stage breast cancer. Older women are often under-represented in studies; however, in this trial 16% of patients were 65 years of age or older. This allowed Jones and colleagues to investigate the effect of age on outcome and the toxic effects associated with these treatments. The effect of human epidermal growth factor receptor 2 (HER2) status on outcome was also assessed.

This randomized, phase III, prospective study included 1,016 women with operable, stage I–III invasive breast cancer. At 7 years of follow-up after treatment with either four cycles of doxorubicin plus cyclophosphamide or docetaxel plus cyclophosphamide administered intravenously every 3 weeks, Jones and colleagues reported that docetaxel plus cyclophosphamide was superior to doxorubicin plus cyclophosphamide in terms of both disease-free and overall survival. Moreover, the effect was the same regardless of patient age, and both young (aged below 65 years) and old patients (aged 65 years or above) were able to tolerate the treatment.

After analyzing the rate of adverse events during treatment or within 30 days of treatment completion, older

women who received doxorubicin plus cyclophosphamide experienced the greatest proportion of grade 3 to 4 anemia. The rate of febrile neutropenia was previously reported as 5% in patients treated with docetaxel plus cyclophosphamide and 2.5% in patients treated with the doxorubicin regimen. When analyzed by age, the rate of this complication was 8% in older patients who received docetaxel and cyclophosphamide, compared with 4% in younger patients. For patients treated with doxorubicin plus cyclophosphamide the rate of febrile neutropenia was 4% in older patients and 2% in younger patients. There was no association between HER2 status and outcome. The most significant finding, according to the authors, was that “a nonanthracycline regimen could beat the standard with level I evidence: overall survival as well as disease-free survival. It has led to the idea that many women can now be safely and effectively treated without an anthracycline and is changing the patterns of care worldwide.”

The authors conclude that longer follow-up of patients in the US Oncology Research trial 9735 has shown that the nonanthracycline combination of docetaxel and cyclophosphamide has a significant survival benefit compared with a standard anthracycline regimen as adjuvant therapy for early-stage breast cancer. Further studies are needed to

determine whether anthracyclines are required in the adjuvant setting and the authors are carrying out a trial to determine whether or not anthracyclines are necessary, which they hope will set the stage for years to come.

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Original article Jones, S. *et al.* Docetaxel with cyclophosphamide is associated with an overall survival benefit compared with doxorubicin and cyclophosphamide: 7-year follow-up of US Oncology Research Trial 9735. *J. Clin. Oncol.* 27, 1177–1183 (2009).