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Analysis of triple-negative breast carcinomas in relapsed breast cancer patients.

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Background : Triple-negative breast cancers are defined by a lack of expression of estrogen, progesterone and HER2 receptors. This triple-negative breast cancer subgroup accounts for 15% of all types of breast cancer and high rate of relapse with poor prognosis. In this study, we evaluated the clinical characteristics of patients who relapsed after surgery and compared this triple-negative group to the others. **Material and Methods :** From January 2000 to April 2007, 44 patients who have relapsed after breast cancer surgery were enrolled and retrospective analysis was made. We used immunohistochemical markers to define ER, PR, HER2 expression status, more than 10% of immunohistochemically positive expression was assessed positive ER or PR expression and immunohistochemically strong(3+) HER2 positive expression or amplified HER2 expression on FISH were accepted. Also we reviewed clinical factors of these patients including surgical and clinical characteristics, post-operative adjuvant therapy, recurrence patterns. **Results :** The median age of these patients was 43 years old(27-80). In the median 42.2 months (8.3-88.4) of follow up, the overall survival(OS) of total relapsed patients was 33.3 months (8.3-88.0) and disease free survival(DFS) was 21.5 months (8.3-88.4). Ten(22.7%) of 44 patients showed triple-negative expression pattern and in this group, the OS and DFS was significantly lower than the other group.(OS; 15.8 vs. 42.4 months, p=0.003, DFS; 13.3 vs. 24.9 months, p=0.000) Especially, anthracycline-free time was significantly shorter in this triple-negative group.(7.9 vs. 21.3 months, p=0.002) In multivariate analysis on OS, still the grouping of triple-negative versus the others is the only significant factor.(HR : 11.7, p=0.049) Discussion: Although the treatment of relapsed triple-negative breast cancers is dependent to chemotherapy only, anthracycline, which was the first choice of breast cancer patients conventionally, showed lower efficacy in this group. There is need to find another powerful growth signaling pathway of triple-negative breast cancer or new cytotoxic therapy.

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Clinical outcomes of metastatic breast cancer patients with triple-negative phenotype who received platinum-containing chemotherapy

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Background : Human breast cancers comprise a heterogeneous group of tumors that are diverse in behavior, outcome, and response to therapy. Triple-negative (TN) breast cancers are defined as a lack of expression of estrogen receptor (ER), progesterone receptor (PgR), and human epidermal growth factor receptor 2 (HER2). TN breast cancers have many similarities to BRCA1-associated breast cancers, which suggests that dysfunction in BRCA1 pathways might be related with sensitivity to DNA damaging agents, such as platinum componds. Methods:We retrospectively analyzed the clinical outcomes and response to therapy in patients with metastatic breast cancer who received the platinum-containing chemotherapy as first or second line treatment, focussed on TN phenotype. Results:Two hundred fifty seven patients with metastatic breast cancer received platinum-containing chemotherapy at Samsung Medical Center from 1999 to 2006. The receptor status of ER, PgR, HER2 were available for histologic review in 198 patients. Among them,113 patients were treated with platinum-containing regimen as first or second line treatment for metastatic breast cancer. The median follow-up duration was 48.5 months (range, 2.5~100.6). Seventy one of 113 had measurable lesions at that time of starting chemotherapy. Thirty nine of 113 revealed TN phenotype. Two out of 71 patients with measurable lesions achieved complete response (CR) and 24 patients did partial response. One of 2 CR cases was TN and the other was ER+/PgR+/HER2-. The overall response rate of TN phenotype was 33% and the disease control rate was 52%, which did not show statistical difference from those of other phenotypes. However, TN group showed shorter overall survival (OS) (p=0.005) and progression free survival (PFS) (p=0.006) than ER+/HER2- group. Conclusion:The response to platinum-containing chemotherapy in patients with TN phenotype was not inferior to that of other phenotypes of breast cancers. However, they showed shorter OS and PFS. Therefore, the implication of TN phenotype of breast cancer as poor prognostic factor is uncertain whether it is related to the rapid growing characteristics of tumor itself or the resistance to drug therapy, and further studies are warranted.