CANCER RESEARCH

Poster Session Abstracts

Abstract PS9-71: The effect of using adjuvant aromatase inhibitors on cognitive functions in postmenopausal women with hormone receptor-positive breast cancer

Rukiye Guler Ilhan, Yusuf Ilhan, Sema Sezgin Goksu, Ali Murat Tatli, and Hasan Senol Coskun

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Abstract

Background: Aromatase inhibitors (AIs) are used for the adjuvant treatment of early breast cancer. Although generally well-tolerated, they have some adverse effects. Because of AIs are used long term in adjuvant treatment, side effects are also very important. Preclinical and a little clinic data indicate that estrogens exert neurotrophic and neuroprotective actions in the brain. So estrogen appears to play an important role in cognitive function and memory. We know that AIs reduce circulating estrogen to very low levels. For this reason, there has been concern that these agents may have a negative effect on cognitive functions. However, this situation is still unclear. The purpose of our study is to evaluate the relationship between duration of treatment and cognitive functions in patients with breast cancer who use AIs in adjuvant therapy.

Methods: Patients diagnosed with breast cancer who use AIs as adjuvant treatment and followed up at the Akdeniz University Medical Oncology Clinic were included. The patients were surveyed for demographic characteristics. Montreal Cognitive Assessment (MoCA) and Standardized Mini-Mental State Examination (SMMT) tests were applied to patients by the same investigator to evaluate their cognitive functions. The total scores of the tests and the orientation, naming, short-time memory, visuospatial functions-executive functions, attention, abstract thinking, language which are the MoCA subscales were evaluated separately. In the Turkish population, the normal range of the MoCA and SMMT tests are 21-30 points and 24-30 points, respectively. Patients were grouped as 0-6, 6-12, 12-

24, 24-36, 36 and more months according to the duration of AIs using time. 200 patient's data were analyzed with SPSS package program. This study was approved by the Akdeniz University Faculty of Medicine Clinical Research Ethnics Committee and was conducted in accordance with declaration of Helsinki.

Results: The median follow-up time was 55.5 months. The median duration of AIs treatment was 36.5 months. The mean age of patients was 61.3 years-old. There was no relationship between duration of treatment and MoCA and SMMT scores which indicates cognitive functions (p>0.05). In addition, no statistically relationship was found in the evaluation of MoCA subscales (p>0.05). As expected, the total MoCA and SMMT scores were affected by factors such as age, education level, and employment status. Interestingly, although it was not our main purpose, a causal relationship between the presence of hypertension and cognitive decline was shown in our study (p: 0.004). A statistically strong correlation was found between the MoCA and SMMT scores. So, our data are reliable. The duration of treatment with AIs and MoCA and SMMT scores of the patients were given in Table 1.

Conclusions: As a result, despite conflicting results in the literature, we showed with 200 patients that adjuvant treatment with AIs does not affect cognitive functions in post-menopausal hormone receptor-positive breast cancer patients.

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Table 1: Relationship between the duration of treatment with AIs and MoCA and SMMT scores

Duration of AI	n	MoCA*Mean±SD	MoCAMed (min-max)	SMMT**Mean±SD	SMMTMed (min-max)
0-6 m	23	19,7±5,2	21 (10-26)	25±4	25 (15-30)
6-12 m	24	20,7±5,4	21,5 (8-28)	24,7±3,6	24 (16-30)
12-24 m	14	18,2±4,1	18,5 (13-27)	24,3±4	25 (13-29)
24-36 m	29	20,3±4,9	20 (11-29)	24,1±3,2	25 (17-30)
36 m and more	110	20,3±4,5	21 (8-29)	25±3,2	25 (14-30)
Total	200	20.1±4,7	21 (8-29)	24,8±3,4	25 (13-30)

AI: Aromatase inhibitors, m: Mounths, n: Number, MoCA: Montreal Cognitive Assessment, SMMT: Standardized Mini-Mental State Examination, SD: Standart Deviation, Med: Median***p: 0.550 **p:0.533**

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