women receiving an AI for non-metastatic breast cancer are analyzed in order to define whether chronic diuretic therapy could affect the impact of arthralgia on those patients.

Results: 42/288 patients were receiving chronic diuretic therapy for heart disease or hypertension (Group A), while 246/288 patients had never received any diuretic medication (Group B). At 43.03 months of mean follow up, in Group A arthralgia was developed in 3/42 patients (6.97%) as opposed to 39/246 patients in Group B (15.85%) − p value: 0.01. Other parameters that could affect the impact of arthralgia in both Groups are also analyzed and taken under consideration.

Conclusion: Reviewing our material, it appears that benefits arising from chronic diuretic therapy as far as AI-associated arthralgia is concerned are not statistically significant. Nevertheless, more research needs to be done in order to investigate the possibility of administering a diuretic agent as an alternative treatment to AI-associated syndrome.

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Stellate ganglion block induced by low level laser therapy to reduce adverse reactions of endocrine therapy in breast cancer patients

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Background: Endocrine therapy is an effect and safe standard treatment for breast cancer, however many patients develop menopausal symptoms due to a low estrogenic state. In many patients, quality of life deteriorates, particularly due to hot flashes and sweating. Generally these symptoms can be treated with various methods such as Chinese herbal medicine, SSRIs, isoflavone, yoga, etc., but the results is insufficient. In 2008, Lipov etal. reported that stellate ganglion block is an effective treatment for hot flashes and night awakenings in breast cancer patients.

We report a case of a treatment using a stellate ganglion block induced low level laser therapy (LLLT) which is a non-invasive and safe method.

Material and Methods: We treated 20 patients with LLLT. All patients had received endocrine therapy, such as LH-RH agonist + TAM or TAM or AIs, and the average age was 44.1. A previous treatment for menopause-like symptoms such as hot flashes, sweating and insomnia was included in an untreated patient, but as is common, Chinese herbal medicine and SSRIs were given.

Written informed consent was obtained prior to the start of therapy. We used two machines: one was a low-level diode laser device and the other was a near-infrared laser device. The laser photoradiation site was the sixth and seventh cervical transverse process vertebrae.

Treatment time was approximately 10 minutes. We evaluated the therapeutic effects and according to symptom frequency using a hot flash score.

Results: No adverse effects of treatment were recognized, and the hot flash score mean decreased from 63.2 points before treatment to 28.0 points after treatment. In addition, we were able to confirm a decrease in the frequency of hot flashes and sweating in 85% of all patients.

Conclusions: Stellate ganglion block by LLLT is effective on hot flashes and sweating in breast cancer patients. We believe that the introduction of a safe, non-invasive procedure which is extremely simple, for treatment of the adverse reactions of breast cancer endocrine therapy could be significant.

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The effect of exemestane and anastrozole on bone mineral density and bone turnover markers in postmenopausal early breast cancer patients: final results of 3 years after randomization of N-SAS (national surgical adjuvant study) BC04, the TEAM Japan sub-study

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Background and Aims: Postmenopausal women treated with aromatase inhibitors/inactivators (AIs) are known to be at risk for bone loss. In preclinical studies, a steroidal AI has a different effect compared with non-steroidal AIs. We aimed to investigate the difference among exemestane and anastrozole in the effect on bone mineral density (BMD) and bone turnover markers in patients with postmenopausal primary breast cancer treated with those agents as adjuvant endocrine therapy.

Patients and Methods: Of the 247 postmenopausal patients randomized in the N-SAS BC04 trial, the number of the patients included in the present study for exemestane (25 mg/day) arm was 27, anastrozole (1 mg/day) arm was 23 and tamoxifen (20 mg/day) arm was 26. In Tamoxifen arm, treatment changed from tamoxifen to exemestane at 2.75 years after randomization and, therefore, tamoxifen group was excluded in the present analysis. BMD was measured by dual-energy x-ray absorptiometry at baseline, 12, 24 and 36 months after treatment initiation. Urinary type I collagen cross-linked N-telopeptide (NTX) and serum bone specific alkaline phosphatase (BAP) were measured as bone turnover marker at baseline and 3, 6, 12, 24 and 36 months after treatment initiation. All patients are within normal limit in BMD at radomization.

Results: Although there was no significant difference in BMD level at 12 and 24 months among 2 arms, there was a significantly lower in anastrozole arm compared with exemestane arm at 36 months. NTX level did not change during 36 months period in exemestane and anastrozole arm. BAP level also constantly increased in exemestane as well as anastrozole arm.

Conclusion: Although there were no significant differences in the bone turnover marker levels between exemestane and anastrozole arms, a favorable effect of exemestane in bone mineral density profile was observed at 36 months after randomization. There might be some differences between steroidal and non-steroidal AI. Further clinical studies are mandatory to confirm these phenomena.

BMD	Entry	1 year	2 years	3 years
ANA				
mean(SD)	84.49 (13.90)	80.55 (10.91)	79.87 (9.41)	79.99 (8.84)
min–max (median)	47.0–106.3 (80.4)	59.1–98.4 (78.4)	63.8–97.3 (78.4)	70.1–96.1 (78.9)
Q1-Q3	76.1–95.4	73.5–90.0	72.5–88.5	72.2–87.7
EXE				
mean(SD)	85.77 (13.02)	86.33 (13.56)	85.67 (12.32)	86.47 (11.71)
min–max (median)	65.6–118.0 (83.8)	63.6–114.8 (83.4)	65.4–107.2 (84.0)	73.4–105.8 (80.9)
Q1-Q3	75.7–93.8	74.6–94.1	74.2–95.3	75.0–95.1

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Bone effects of anastrozole in Japanese postmenopausal breast cancer patients: results of a two year follow-up multicenter prospective study (SBCCSG-06)

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Background: Anastrozole is superior to tamoxifen in terms of efficacy and safety for adjuvant treatment in postmenopausal patients with hormone-responsive early breast cancer. Based on therapeutic guidelines, anastrozole is widely used for adjuvant treatment in Japan. However, there are only a few reports on the safety of anastrozole in Japanese patients, especially the long-term effects on bone mineral density (BMD). The aim of this study is to evaluate the frequency of bone fracture and impact on BMD during the course of adjuvant treatment with anastrozole in Japanese patients. This is a report on the updated two year follow-up data after the first year of analysis.

Patients and Methods: The SBCCSG-06 trial included 350 post-menopausal patients with confirmed the hormone-sensitive stage I to IIIA breast cancer (oestrogen or progesterone receptor positive). All patients received anastrozole (1 mg/day) for five years as adjuvant treatment. Patients underwent clinical examination for any bone fractures and annual check-up for BMD (YAM %: young-adult-mean) during the course of treatment. The oral bisphosphonates were used concomitantly with anastrozole for patients diagnosed with osteoporosis (YAM < 70%).

Results: After a median follow-up of 29 months (ranging from 1 to 47 months), 330 women were analyzed at the time of data cutoff. Bone fractures occurred in five cases, and annual fracture rates were 0.6% (2/330) at 12 and 24 months. The overall median BMD were 85%, 82% and 81% at the time of pre-treatment, at 12 and 24 months, respectively. Paired t-test revealed that BMD significantly decreased in each period of 12 months.

Conclusions: In this multicenter prospective study, there was a significant reduction of BMD in Japanese patients after two years of treatment with anastrozole. We recommend that annual monitoring of BMD be mandatory in treated patients. Moreover, long-term follow-up data is necessary to elucidate the racial disparities of the safety profile of anastrozole.

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Medical intervention side effects prevention throughout breast cancer treatment

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Background: Breast cancer patients quality of life is negatively affected not only due to functional deficiency caused by the malignome itself, but also due to medical treatment side effects (limited shoulder movement, arm lymphoedema on the operated breast side), which lead to functional handicap and severely affect patient's life quality.