Bone Mineral Density screening in Invasive Breast cancer patients treated with Anastrozole in adjuvant setting

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**INTRODUCTION:**

Osteopenia and osteoporosis due to bone loss are common in women undergoing breast cancer treatment with chemotherapy and hormone therapy. Premenopausal women develop premature ovarian failure and thus faster bone loss in this group of patients occurs. Tamoxifen improves bone mineral density (BMD) but anastrazole may increase bone loss. Anastrazole is approved for adjuvant hormone therapy in postmenopausal women with oestrogen positive breast cancer. Over a 5 year follow up period women treated with anastrozole experience increased incidences of fracture in comparison to those treated with tamoxifen.

A baseline standard BMD is recommended at the start of anastrozole therapy. It is also recommended to monitor this BMD after 2-3 years to assess the bone loss. We evaluated the baseline BMD in such patients to look at the incidence of osteopenia and osteoporosis and its impact on treatment.

METHODS:

We studied hospital notes and records of 100 sequential patients diagnosed of invasive breast cancer from January 2013 to June 2013 (6 months). Base line Dexa scan results were studied to evaluate BMD of patients on anastrozole.

RESULTS:

Among those studied 65 were ER positive, 16 Triple negative and 3 were HER2 positive. Among ER positive patients 11 of them were postmenopausal. All of them were started on anastrazole as adjuvant treatment. DEXA scan was done in all of them to measure baseline BMD. Among them 2 (18%) were in the range of osteoporosis with T score reading of lower than -2.5., 5 (45%) were having reading between -1 to -2.5 showing osteopenia and 4 (36%) of them were found to have T score reading above -1 which was considered as normal. The T score analysis was as per WHO guidelines.

CONCLUSION:
In our study just over 60% patient were having either osteopenia or osteoporosis at the start of the therapy. Almost 20% patients were detected to have osteoporosis at the start. They were started on bisphosphonates along with anastrozole. Therefore we recommend that all patients undergoing breast cancer treatment with early menopause should have baseline DEXA scan to screen those in need of bisphosphonate therapy. Infact a larger study with bigger data is needed to evaluate more in terms of bone health in this group of patients.