

Aromatase inhibitors and fracture prevention- is our current approach correct?

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Objectives

Determine the impact of 2017 consensus guidelines on aromatase inhibitor bone loss (AIBL) and if bone sparing therapy utilising proposed risk stratification model is effective in fracture prevention.

Material and Methods

1001 women were given AI at a university teaching hospital over 7 years. New guidelines were adopted in July 2017. Participants were placed in two groups: 361 (36%) commenced AI prior to the adoption of guidelines and 640 (64%) were in the post implementation group.

First group were offered bone active treatment based on NOS 2009 guidelines and second group followed the 2017 consensus guidelines. Women with osteoporosis were all offered treatment, however the difference in guideline is pertinent to osteopenia and we analysed that group.

Results

Mean age was 64 years. 929 (93%) women were Caucasian, 723 (72%) had invasive ductal carcinoma and 863 (86%) were postmenopausal. At diagnosis, 428 (43%) had node positive disease and 35 (4%) metastases. 91 (9%) had fractures prior to their cancer diagnosis.

276 (28%) received oral bisphosphonates and 58 (6%) received parenteral therapy.

First group (n=361): baseline DEXA with a mean left neck of femur (LNOF) BMD of

Results (continued)

0.888 g/cm² (range 0.552-1.222). 143 (40%) women were normal, 174 (48%) osteopenic and 44 (12%) osteoporotic.

Osteopenia- 44 women (25%) were treated and 33 had a repeat DEXA after 4 years (mean). In the treatment group, LNOF mean BMD remained unchanged from 0.814 g/cm² to 0.812 g/cm² at the repeat (p= 0.94). 22 (13%) women had a fracture.

Second group (n=640): baseline DEXA with a mean LNOF BMD of 0.888 g/cm² (range 0.512-1.390). 216 (33%) women were normal, 322 (50%) osteopenic and 107 (17%) osteoporotic.

Osteopenia- 127 women (39%) were treated and 56 had a repeat DEXA after 3 years (mean). In the treatment group, LNOF mean BMD remained relatively unchanged from 0.822 g/cm² to 0.829 g/cm² at the repeat (p= 0.6169). 8 (2.5%) women had a fracture.

Conclusions

This shows the success of 2017 consensus statement in lowering fracture risk. Although there has been data for positive impact on BMD decline with this approach, evidence for fracture prevention has been limited.

A significant reduction in fractures pre (13%) and post (2.5%) guidelines change was demonstrated which has implications for healthcare systems worldwide.

Conflicts of Interest: None to declare