Bone mineral density (BMD) after three years of adjuvant zoledronic acid (ZA) in post-menopausal oestrogen receptor positive (ER+ve) early breast cancer (EBC). An observational single centre study.

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Background

➢ Adjuvant bisphosphonates are recommended in the UK by National Institute of Clinical Excellence (NICE) for post-menopausal women with EBC with intermediate or high, risk to improve breast cancer outcomes.1
➢ This guidance is based on the improvement in long term outcomes with adjuvant bisphosphonates seen in the of the EBCTG meta-analysis.2
➢ Bisphosphonates protect against bone loss from adjuvant Aromatase Inhibitor (AI) therapy.3
➢ Following several studies and a meta-analysis, extended AI therapy is now recommended for certain risk groups for up to 10 years.4
➢ Given the possible use of extended AI therapy beyond the 3 years of adjuvant zoledronic acid (ZA), bone health after this period is of interest to guide further management.

Objectives and patient population

➢ To evaluate BMD of patients who have completed 3 years of ZA.
➢ Assumption that a significant majority would not need any further bone management.
➢ Currently guidelines do not recommend a baseline DEXA before ZA treatment commences.

Current UK Guidelines on bone health whilst on AI

➢ Measures BMD spine and hip
➢ Femoral neck density used in study as greatest correlation to future fracture risk.
➢ FRAX score5 developed to predict future risk of fracture but currently not used to determine management.
➢ FRAX score collected on patients in study for future validation.

Methods

Patients approaching completion of 3 years ZA identified on electronic clinical system
• Clinical system used to identify those ER+ve
• Electronic prescribing system used to confirm dose, interruptions and completion date.

ER+ patients with at least 3 years of adjuvant ZA with or without loading doses (6 weekly x3) included in study
• Patients contacted with information on study
• DEXA scan booked

Virtual or face-to-face clinic with DEXA scan result
• Patients informed of DEXA scan result
• FRAX data collected
• Management plan made according to current national guidance

Results

➢ 54 patients had a DEXA scan after 3 years of Zoledronic Acid
➢ Majority 33 (61%) had a femoral neck T score that requires no further management.
➢ 21 (~40%) had T score < -1.0 which would require further bone health management using current UK guidelines

➢ A significant proportion of patients had a post ZA DEXA BMD that required further management.
➢ 7/54 (13%) had a DEXA BMD requiring further bone health treatment with bisphosphonate therapy.
➢ This group needs continued monitoring, particularly if extended AI therapy to 10 years is being offered.
➢ Until further data becomes available, a DEXA scan should be undertaken at the end of adjuvant ZA therapy for patients due to receive extended AI treatment or with other risk factors.
➢ A future study collecting FRAX data is planned to correlate with DEXA scan findings in this group.

References:
1. nice.org.uk/guidance/es15
2. Lancet 2015; 386: 1353-61
6. Reid DM et al, Cancer Treatment Rev 2008; 34:S1:S3-18

The authors declare no conflicts of interest. Correspondence to: charperwynne@nhs.net

Publication Number: 397