Ankylosing spondylitis (AS) patients with short duration of symptoms show relatively low Bone Mineral Density (BMD); ASRI cohort

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Background

Ankylosing spondylitis (AS) is a chronic inflammatory disease of joints which primarily affects sacroiliac joints and axial skeleton with, sometimes, peripheral joint involvement and extra-articular features of spondyloarthropathy.

Low bone mineral density (BMD) is one of the most common complication of AS. Osteoporosis is the proven fact in AS patients with longer duration of symptoms, however, high prevalence of low BMD is also found in patients with relatively short duration of symptoms particularly in young, male adults.

Aims

To evaluate BMD in relation to different age groups and duration of symptoms in AS patients

Method

This was an observational, retrospective study based on data collected from Ankylosing Spondylitis registry of Ireland (ASRI) of the Northwest regional patients. All newly diagnosed AS patients meeting the modified New York criteria were invited to participate in this study.

We looked at different variables, including patient's demographic details, duration of symptoms and dual-energy x-ray absorptiometry (DEXA) result. T-scores for hips were analysed, as, pathological new bone formation at lumber spine can give false readings for T-score for lumber spine. Values for BMD (g/cm^2) and Z-scores were not available to use in ASRI data

Results

Out of 148 patients on ASRI, 87 found to have DEXA scan done. Females were 10 (11.49%), male were 77 (88.51%). Mean age at the time of diagnosis was 35.99 years (SD 11.30) and mean age at the time of DEXA was 46.93 years (11.94). Average time interval from onset of symptoms to diagnosis was 9.55 years (SD8.01) and average time from onset of symptoms to have DEXA scan was 20.49 years (SD 12.09).

Mean T-score was -0.80 in patients for age 50 years and/or above (n=37/87) at the time of DEXA as compared to patients below 50 years of age(n=50/87) whose T-score was -0.78. Mean T-score was -0.94 in patients with time-interval from onset of symptoms to have DEXA Scan up to 10 years (21/87) and was -0.74 for the patients with time-interval of more than 10 years (66/87).
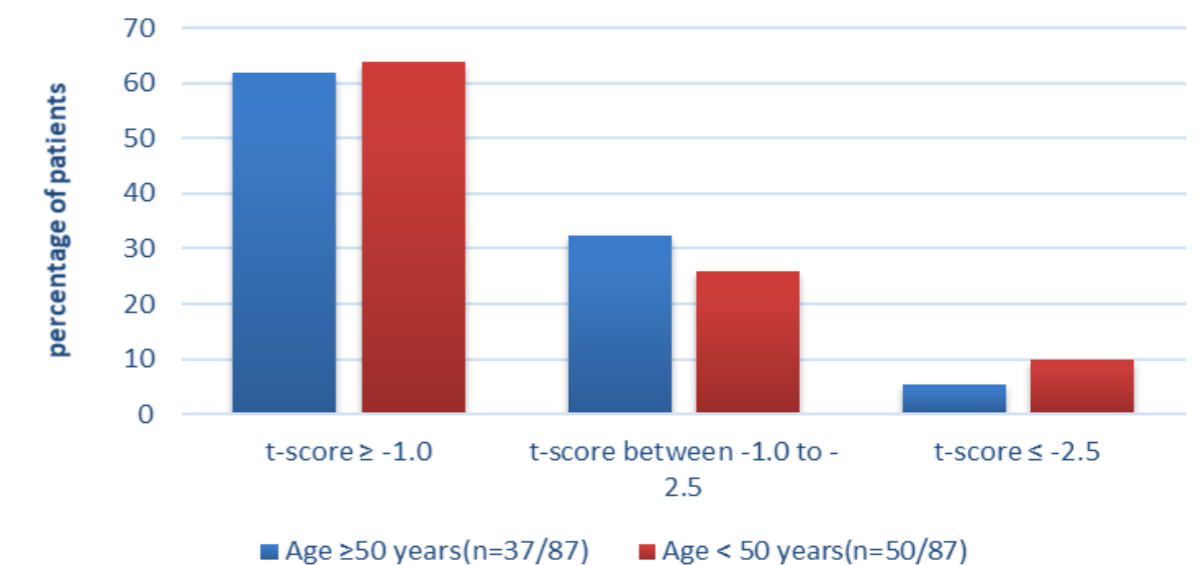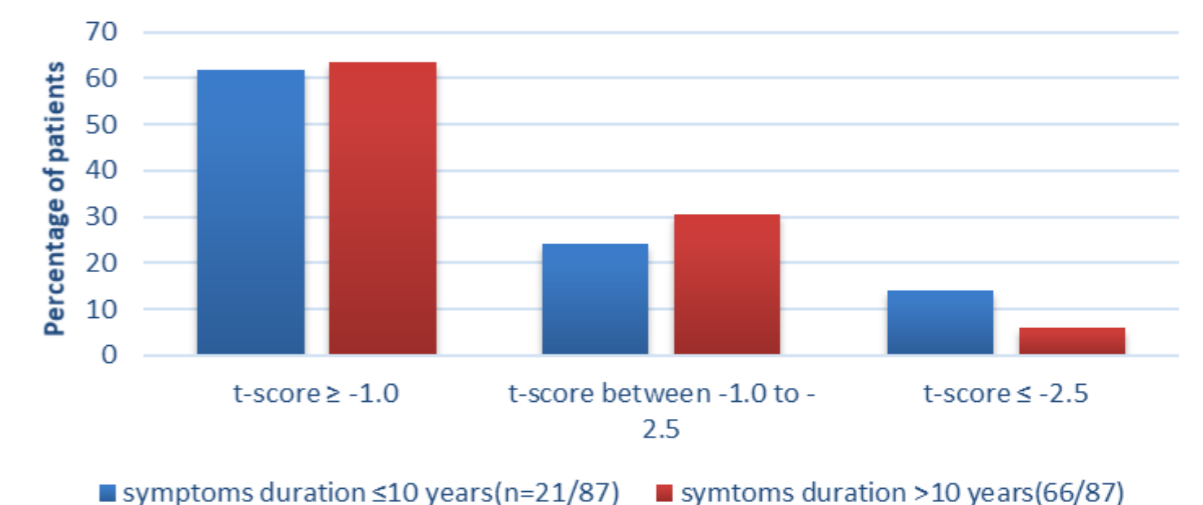

Fig.1: Comparison of t-score ranges by age

Fig.2: Comparison of t-scores ranges by symptoms duration

Discussion

Patients, from this cohort, showed relatively low BMD with short duration of symptoms (as shown in figure 2) which could be related to high disease burden in early years. It needs to be studied further to see any clinical significance.