Rheumatoid arthritis is associated with less optimal hip structural geometry.

The overall goal of this study was to assess the longitudinal changes in bone strength in women reporting rheumatoid arthritis (RA; n=78) compared with nonarthritic control participants (n=4779) of the Women's Health Initiative bone mineral density (WHI-BMD) subcohort. Hip structural analysis program was applied to archived dual-energy X-ray absorptiometry scans (baseline, years 3, 6, and 9) to estimate bone mineral density (BMD) and hip structural geometry parameters in 3 femoral regions: narrow neck (NN), intertrochanteric (IT), and shaft (S). The association between RA and hip structural geometry was tested using linear regression and random coefficient models. Compared with the nonarthritic control, the RA group had a lower BMD (p=0.061) and significantly lower outer diameter (p=0.017), cross-sectional area (p=0.004), and section modulus (p=0.035) at the NN region in the longitudinal models. No significant associations were seen at the IT regions or S regions, and the association was not modified by age, ethnicity, glucocorticoid use, or time. Within the WHI-BMD, women with RA group had reduced BMD and structural geometry at baseline, and this reduction was seen at a fixed rate throughout the 9 yr of study.
Rheumatoid arthritis is associated with less optimal hip structural geometry.

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