Prevalence and risk factors of discordance in diagnosis of osteoporosis using spine and hip bone densitometry

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reported so far. Our study is the first in which only patients with severe PsA with recalcitrant psoriasis were included. We showed considerable improvement of PsARC and ACR clinical response with healing of the psoriatic skin lesions, which was sustained for 2 years. Another point is the high rate of infliximab survival after treatment. This is probably related to the combination treatment, especially the use of methotrexate and ciclosporin. 10 We conclude that infusions of infliximab in severe PsA with recalcitrant psoriasis led to a marked clinical response which was sustained over 2 years, and the infliximab survival rate was 75%.

**PREVALENCE AND RISK FACTORS OF DISCORDANCE IN DIAGNOSIS OF OSTEOPOROSIS USING SPINE AND HIP BONE DENSITOMETRY**

**Abdellah El Maghraoui, Davy A Mouinga Abayi, Imad Ghozlan, Aziza Mounach, Abderrazak Nouijai, Mirieme Ghazi, Lahsen Achemlal, Ahmed Bezza**

D ual x ray absorptiometry is the reference method to measure bone mineral density (BMD) accurately and reproducibly. The World Health Organization defines osteoporosis on the basis of the T score (which is the difference between the measured BMD and the mean value of young adults, expressed in standard deviations for a normative population of the same ethnicity). 1 Although the BMD at different anatomical regions is correlated, the agreement between sites is low when it comes to classifying individual different anatomical regions is correlated, the agreement at the lumbar spine (L1–L4) and at the femur. Using the Moroccan normative data for lumbar spine and hip, 19 and the World Health Organization criteria, each patient was categorised as having (only) one of the following: concordance (osteoporosis, osteopenia or normal BMD at both sites), minor discordance (osteoporosis at one site and osteopenia at the other site or osteopenia at one site and normal at the other site) and major discordance (osteoporosis at one site and normal at the other site).

Major discordance was observed in BMD results of 129 (4.3%) participants (table 1). Minor discordance was observed in 1250 (41.5%) participants, and T score categories of two measurement sites in the remaining 1636 (54.3%) participants were concordant. In multivariate analysis (table 2), menopausal participants and those with obesity and a history of fractures were more likely to show major T score discordance.

Our study confirms that T score discordance between the spine and hip testing sites is a commonly observed phenomenon. The discordance may be related to the skeleton’s natural adaptive reaction to normal external and internal factors and forces (eg, overweight), or to the difference in bone loss velocity between trabecular and cortical bone (eg, menopause or steroid use); secondary to a disease leading to a falsely increased spine T score (vertebral osteophytosis, facet sclerosis, syndesmophytes or aortic calcification); artefactual when dense synthetic substances are within the region of interest of the test; and

**REFERENCES**


**APPENDIX**

**Abbreviation:** BMD, bone mineral density
finally, technical because of device errors, technician variability or patients’ movements.

T score discordance could cause some problems for doctors in decision making. Thus, it is recommended to measure BMD in both the hips and the spine and classify patients on the basis of the lowest T score. The inconsistencies in the diagnostic classification of osteoporosis between skeletal sites lend credence to the notion that BMD should be used as only one of the factors in making therapeutic decisions when evaluating patients with osteoporosis.

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Table 1 Distribution of diagnostic discordances using World Health Organization criteria according to sex

<table>
<thead>
<tr>
<th>Major T score discordance</th>
<th>Male participants (n = 529)</th>
<th>Female participants (n = 2486)</th>
<th>Total (n = 3015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip osteopenia, normal lumbar</td>
<td>15 (2.8)</td>
<td>114 (4.6)</td>
<td>129 (4.3)</td>
</tr>
<tr>
<td>Hip osteoporosis, normal lumbar</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Hip osteopenia, lumbar osteoporosis</td>
<td>13</td>
<td>109</td>
<td>122</td>
</tr>
<tr>
<td>Hip osteoporosis, lumbar osteoporosis</td>
<td>218 (41.2)</td>
<td>1032 (41.5)</td>
<td>1250 (41.5)</td>
</tr>
<tr>
<td>T score discordance</td>
<td>58</td>
<td>396</td>
<td>454</td>
</tr>
<tr>
<td>Hip osteopenia, normal lumbar</td>
<td>32</td>
<td>106</td>
<td>138</td>
</tr>
<tr>
<td>Hip osteoporosis, normal lumbar</td>
<td>122</td>
<td>500</td>
<td>622</td>
</tr>
<tr>
<td>T score discordance</td>
<td>296 (56)</td>
<td>1340 (53.9)</td>
<td>1636 (54.3)</td>
</tr>
<tr>
<td>Hip and lumbar osteoporosis</td>
<td>198</td>
<td>693</td>
<td>891</td>
</tr>
<tr>
<td>Hip and lumbar osteopenia</td>
<td>76</td>
<td>453</td>
<td>529</td>
</tr>
<tr>
<td>Hip and lumbar normal</td>
<td>22</td>
<td>194</td>
<td>216</td>
</tr>
</tbody>
</table>

Numbers are presented as frequency (percentage)

Table 2 Results of multivariate logistic regression analysis for risk factors of major and minor discordance obtaining T score concordance at lumbar and hip sites as the reference

<table>
<thead>
<tr>
<th>Minor discordance</th>
<th>Male participants (n = 3015)</th>
<th>Female participants (n = 3015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (female)</td>
<td>0.83 (0.07 to 9.21)</td>
<td>1.01 (0.05 to 7.32)</td>
</tr>
<tr>
<td>Age group (≥65 years)</td>
<td>0.90 (0.73 to 1.11)</td>
<td>1.07 (0.70 to 2.18)</td>
</tr>
<tr>
<td>Corticosteroid use</td>
<td>1.06 (0.73 to 1.54)</td>
<td>0.84 (0.30 to 2.36)</td>
</tr>
<tr>
<td>Body mass index (≥30 kg/cm²)</td>
<td>1.09 (0.92 to 1.29)</td>
<td>1.49 (1.01 to 2.18)*</td>
</tr>
<tr>
<td>History of osteoporotic fracture</td>
<td>1.64 (0.87 to 3.11)</td>
<td>3.0 (1.22 to 7.37)*</td>
</tr>
<tr>
<td>Menopause</td>
<td>2.04 (1.67 to 2.48)*</td>
<td>6.04 (2.75 to 13.28)*</td>
</tr>
</tbody>
</table>

*Significant odds ratio

REFERENCES

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