Sarcopenia in patients with spondyloarthritis – is there any relation with radiological damage?

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Abstract

- **Sarcopenia** is the progressive and generalized loss of muscle mass (MM) and muscle strength associated with ageing and with some pathological conditions.

- The loss of muscle mass (MM) is a serious problem which may cause increased morbidity and mortality.

- Loss of muscle mass has been demonstrated in patients with rheumatoid arthritis. Several mechanisms have been proposed as concurrent to this process:
  - Decreased physical activity
  - TNFα + other proinflammatory cytokines
  - Corticosteroids
  - Decreased peripheral insulin action

- There are few studies about the loss of MM in patients with spondyloarthritis (Spa)¹ ² and the results have been diverging.

- In a recent case-control study in our department (where cases were patients with either axial or peripheral spondyloarthritis or both, and controls were recruited from a primary healthcare center), the risk of sarcopenia in Spa patients was twice than in the control group³.

Objectives

With this work, the authors intended to:

- assess muscle mass index (MMI) in patients with axial Spa
- search for a relation between sarcopenia and radiological damage, evaluated by mSASSS.

Methods

Observational study, in which mSASSS was assessed in a cohort of patients with axial Spa and muscle mass index (MMI) was determined, from the value of MM, using Lee’s equation⁴. Data were treated using SPSS version 17.0.

Results

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankylosing spondylitis</td>
<td>24</td>
</tr>
<tr>
<td>Psoriatic arthritis</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
</tr>
</tbody>
</table>

- Forty patients were enrolled in this cohort.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>M:F</td>
<td>19:21</td>
</tr>
<tr>
<td>Mean age</td>
<td>41.1±14.4 years</td>
</tr>
<tr>
<td>Mean disease duration</td>
<td>8.8±10.1 years</td>
</tr>
<tr>
<td>Mean mSASSS</td>
<td>8.5±12.1</td>
</tr>
<tr>
<td>Mean IMM ♂</td>
<td>7.88±1.02 kg/m²</td>
</tr>
<tr>
<td>Mean IMM ♀</td>
<td>7.63±0.99 kg/m²</td>
</tr>
</tbody>
</table>

- No difference with statistical significance was found between the mSASSS value in different sarcopenia grades (p=0.091).

- There was a moderate negative correlation between IMM and mSASSS in males (p=0.384), but no correlation was found in females (p=0.016).

Conclusions

- In our cohort, the relation between radiological damage and sarcopenia was restricted to males.
- Patients with different grades of sarcopenia didn't present significantly different mSASSS values.

- Limitations of this study: the use of a non validated equation to calculate MM in Portuguese population; the small number of the sample and the bias of measurement.

References

³Aguir R; Meirinhos T; Sequeira J; Ambrósio C; Barcelos A. Sarcopenia nos Doentes com Espondilitis – Um Estudo Caso Controlo. Simpósio Inflamação & Dor, Espinho, May 2013