INTRODUCTION

• There is increasing interest in 'non classical' immunomodulatory effects of vitamin D.

• Vitamin D has been shown to be associated with various autoimmune disorders such as multiple sclerosis, type 1 diabetes, systemic lupus erythematosus (SLE), and rheumatoid arthritis (RA).

AIMS & OBJECTIVES

• To evaluate vitamin D levels in RA.

• To assess the relationship if any between vitamin D levels and disease activity and disability in patients with RA.

METHODS

Study Design: Cross sectional

Study period: November 2013 to March 2015

Study place: Rheumatology OPD, Indraprastha Apollo Hospitals, New Delhi.

Inclusion Criteria:

• Patients fulfilling ACR/EULAR-2010 criteria for RA.

• Adult patients >18 years

• Patients who gave consent

Exclusion Criteria:

• Severe hepatic, and/or renal disease

• Uncontrolled diabetes

• Granulomatous disease

Controls: 40 healthy hospital staff matched for age and gender.

Clinical and laboratory assessment:

• Disease activity measure: DAS28 (ESR)

• Vitamin D deficiency, insufficiency and sufficient levels were defined as <20, 20-30 and ≥30 ng/ml respectively.

Statistica: Unpaired t tests, chi square, ANOVA, Kruskal Wallis, Pearson and multivariate regression were applied as appropriate.

RESULTS

Table 1: Hypovitaminonosis D in cases and control

<table>
<thead>
<tr>
<th>Vitamin D ng/ml</th>
<th>Cases</th>
<th>Controls</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>22</td>
<td>12</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>≥20</td>
<td>18</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Disease activity measure: DAS28(ESR)

<table>
<thead>
<tr>
<th>Disease activity</th>
<th>Cases</th>
<th>Controls</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAS28</td>
<td>5.2</td>
<td>3.8</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Chart 1: 25(OH)D levels in cases according to vitamin D supplementation

Table 3: Correlation of Vitamin D with continuous variables in patients

<table>
<thead>
<tr>
<th>V. D. ng/ml</th>
<th>Cases</th>
<th>Controls</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>22</td>
<td>12</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>≥20</td>
<td>18</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Association between categorical variables & mean Vitamin D in patients

<table>
<thead>
<tr>
<th>Disease status</th>
<th>Mean Vitamin D (ng/ml)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin D deficiency (&lt;20 ng/ml)</td>
<td>3.0</td>
<td>0.008</td>
</tr>
</tbody>
</table>

DISCUSSION

• The existing literature on vitamin D levels in RA patients and controls shows heterogeneity (Table 4).

• Patients either have shown conflicting results or some studies haven't shown any correlation/Association while others have shown positive correlation with disease activity.

• Most authors did not show effect of disease duration on vitamin D.

• Positive correlation of vitamin D levels with disease duration was seen in present study. These results may be attributed to the fact that patients with longer duration of illness could be more aware of beneficial effects of vitamin D and could have been taking vitamin D supplement without our knowledge.

CONCLUSIONS & RECOMMENDATIONS

• Hypovitaminonosis D was prevalent both in patients with RA and healthy controls.

• Disease activity of RA did not influence vitamin D levels.

• Disease disability was not affected by vitamin D.

• Positive correlation was found between vitamin D and disease duration.

• Given the above findings vitamin D deficiency, routine supplementation of patients with Vitamin D may be warranted.

REFERENCES


DISCLOSURES