THE COST OF ACTIVE SYSTEMIC LUPUS ERYTHEMATOSUS IN GREECE: RESULTS FROM THE LYCOS STUDY

Introduction and objectives

Systemic Lupus Erythematosus (SLE) is an autoimmune disease, characterized by periods of remissions and flares. The majority of SLE patients are women (1), whereas 80% of patients are estimated to fall into the age group of <50 years (2).

The socioeconomic burden of SLE is significant; apart from its negative consequences related to the patients’ level of health and quality of life, the disease entails economic consequences related to the increased use of health care resources, and, more importantly, productivity losses due to its overall impact on the patients’ lives (3).

Cost-of-illness studies in various healthcare systems have estimated the direct and indirect cost of SLE (3-9).

Data on the economic burden of SLE in Greece are lacking. The primary objective of this study was to evaluate the clinical characteristics and estimate the 1-year direct medical cost for adult patients with active, autoantibody-positive SLE in Greece.

Methods

The Systemic Lupus Erythematosus Cost of Care in Greece Study (LyCOS) is a national, multi-centre, retrospective prevalence study. Data were abstracted from patient records in 6 hospitals specialized in SLE management.

The study was approved by the ethics committees in all participating hospitals.

Starting with the patient and the most recent visit, patients with consecutive visits (backwards in time) were considered for inclusion, provided they met the following criteria:

- Age >18 years
- Fulfillment of at least 4 of the revised 1982 American College of Rheumatology (ACR) criteria for classification of SLE (10).
- Being on medication for SLE
- Having active disease
- Having autoimmune positive disease (ANA and/or anti-ds-DNA positive test at least once during the study period)
- Being regularly followed-up in the participating hospitals.
- Not being involved in a clinical trial.
- Not being pregnant during the study period.

In order to estimate costs per disease severity, a stratification criterion was applied: the study included 30% severe and 70% non-severe patients. Severe patients were defined if they had at least one major domain actively involved at inclusion (renal, neurological, cardiovascular or respiratory) and required glucocorticoids (prednisone equivalent >7.5 mg/day) and/or immunosuppressants. Patient data were collected for a 1-year period starting from the inclusion date (January-September 2011) and moving forward. Data included patient characteristics and healthcare resource utilization.

In addition, all SLE patients followed-up in the participating hospitals (without any stratification or inclusion/exclusion criterion) during a 3-month retrospective period (April 11 – June 11) were included.

Direct costs were estimated from the third party payer perspective (social insurance). Official 2013 list prices were used. Statistical analysis was performed using the SAS system version 9.3 (SAS Institute Inc, Cary, NC, USA) in Windows™ support.

Results

215 patients (67 severe and 148 non-severe according to the stratification criterion) were included in the study. Patients’ selected baseline characteristics are presented in Table 1.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Gender (female)</th>
<th>Ethnicity (Greek Caucasian)</th>
<th>SLE duration (years)</th>
<th>SELENA-SLEDAI score</th>
<th>SdI score</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.5 (14.6)</td>
<td>94.4</td>
<td>95.9</td>
<td>8.7 (7.5)</td>
<td>6.1 (3.3)</td>
<td>0.6 (1.0)</td>
</tr>
</tbody>
</table>

Mean direct medical costs were estimated at €1,225 for patients with non-severe and at €7,741 for patients with severe active SLE. The mean 1-year direct medical cost of patients in the main study was €2009 (SD 3768). Costs were statistically significantly higher for severe SLE patients (Table 1).

Table 2. Direct medical cost (€) per annum of active SLE for the main study sample, by disease severity

<table>
<thead>
<tr>
<th>Disease severity</th>
<th>Non-severe SLE (n=148)</th>
<th>Severe SLE (n=67)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total direct medical cost, mean (SD)</td>
<td>1225 (2044)</td>
<td>3741 (5684)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Per category, mean (SD)</td>
<td></td>
<td></td>
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<tr>
<td>Laboratory tests</td>
<td>142 (72)</td>
<td>198 (104)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Biopsies &amp; imaging tests</td>
<td>39 (95)</td>
<td>80 (177)</td>
<td>0.001</td>
</tr>
<tr>
<td>Day hospitalizations</td>
<td>29 (91)</td>
<td>111 (184)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Inpatient stays</td>
<td>380 (1347)</td>
<td>1342 (2306)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Medications</td>
<td>613 (1456)</td>
<td>1982 (4437)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Specialists visits</td>
<td>22 (13)</td>
<td>28 (13)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Laboratory and imaging tests, medicines, physicians’ visits, and hospitalization costs represented 10.5%, 51.7%, 12.1%, 36.5% of mean cost respectively (Figure 1).

Conclusions

The direct medical cost of SLE in Greece is significant, especially for patients with severe disease. In accordance to previously published literature (9), the cost of SLE care was higher (3-fold) in patients with active severe disease.

Medication and hospitalization costs were the largest cost components.

Apart from the high direct medical cost, SLE entails significant indirect costs, which were not addressed in the current study protocol. An estimation of indirect costs would provide a comprehensive perspective of the societal burden of the disease. Further research initiatives should aim to address the lack of respective data for Greece.

References