Background

- The introduction of biological drugs has led to a new era for the treatment of psoriasis.
- The recent arrival of biosimilars has guaranteed effectiveness at a more sustainable cost.

Aim and objectives

We aimed to compare long-term therapy cost and cost-effectiveness of biological systemic therapies for the treatment of patients with moderate-to-severe plaque psoriasis.

Material and methods

- Costs were extrapolated from our internal hospital database; we reported the purchase price, including any discount.
- Efficacy data, such as PASI index over 12 to 16 weeks, were obtained from a recent meta-analysis by Sawyer et al.
- We calculated the long-term costs by considering the monthly expenditures plus the costs related to the induction phase.
- Cost-effectiveness analysis was performed by a correlation analysis between the effectiveness and cost of therapy.
- Correlation index (R) was calculated for each drug at different PASIs

Result I

Cost analysis of the first year and the first three years of therapy showed how the introduction of biosimilar drugs has greatly lowered the global expenditure.

<table>
<thead>
<tr>
<th>Drug</th>
<th>1st year cost (€)</th>
<th>3rd year cost (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalimumab</td>
<td>42,014</td>
<td>31,809</td>
</tr>
<tr>
<td>Enbrel (Max)</td>
<td>42,014</td>
<td>31,809</td>
</tr>
<tr>
<td>Enbrel (Min)</td>
<td>7,222</td>
<td>5,247</td>
</tr>
<tr>
<td>Amgevita (Max)</td>
<td>17,373</td>
<td>13,590</td>
</tr>
<tr>
<td>Amgevita (Min)</td>
<td>1,414</td>
<td>1,107</td>
</tr>
<tr>
<td>Imraldi (Max)</td>
<td>3,235</td>
<td>2,310</td>
</tr>
<tr>
<td>Imraldi (Min)</td>
<td>3,148</td>
<td>2,210</td>
</tr>
</tbody>
</table>

In terms of efficacy alone, greater therapeutic responses were observed for the most recently approved molecules, especially considering PASI90/100. The cost/PASI ratio of these newer therapies becomes convenient only for PASI 90 and 100.

Conclusion

- The introduction of biosimilars has reduced the cost of some therapies, freeing up resources for more innovative and expensive treatments for relapsing or nonresponding patients.
- We observed a certain linearity between cost and efficacy; a higher cost is correlated with greater effectiveness, especially for PASI90/100.
- There is still a lack of longer duration studies (over 16 weeks) able to compare more consistently long-term therapies with drugs of different classes.

References

- Sawyer et al. (2019)
- Grant C, et al. (2019)
- Yasmeen (2019)
- Daniele Mengato
- Nicolas Sagaria

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