Resource impact report: Ciclosporin for treating dry eye disease that has not improved despite treatment with artificial tears (TA369)

Published: December 2015
Summary

Ciclosporin (Ikervis) is recommended, within its marketing authorization, as an option for treating severe keratitis in adult patients with dry eye disease that has not improved despite treatment with tear substitutes. Ciclosporin is estimated to be suitable for around 43,000 people.

The estimated resource impact of implementing this technology for the population of England is shown in the table below. This report is supported by a resource impact template which may be used to calculate the resource impact of the implementing the guidance by amending the variables in the blue cells.

The cost of the ciclosporin preparations featured in the model were taken from December 2015 Electronic Drug tariff. Lower prices may be available locally and can be used in the resource impact template. The saving results from a reduction in the price of medicines prescribed.

Table: Total resource impact of treatment for the population of England over 5 years

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</thead>
<tbody>
<tr>
<td>Population treated with Ikervis ciclosporin preparation each year</td>
<td>8,692</td>
<td>17,384</td>
<td>28,974</td>
<td>34,769</td>
<td>43,461</td>
</tr>
<tr>
<td>Saving each year (£000)</td>
<td>(2,622)</td>
<td>(5,244)</td>
<td>(8,740)</td>
<td>(10,488)</td>
<td>(13,110)</td>
</tr>
</tbody>
</table>

This technology is commissioned by clinical commissioning groups. Providers are NHS hospital trusts.

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1 Introduction

1.1 This report looks at the resource impact of implementing NICE technology appraisal guide on ciclosporin for treating dry eye disease that has not improved despite treatment with artificial tears in England.

1.2 The guidance states that ciclosporin is recommended, within its marketing authorisation, as an option for treating severe keratitis in adult patients with dry eye disease that has not improved despite treatment with tear substitutes.

1.3 This report is supported by a resource impact template. The template aims to help organisations in England, Wales and Northern Ireland plan for the financial implications of implementing the NICE guidance by amending the variables locally in the supporting resource impact template.

2 Background and epidemiology of dry eye disease

2.1 Dry eye disease is chronic inflammation of the eyes caused by reduced tear production or excessive tear evaporation. There is currently no cure; management aims to relieve discomfort and prevent damage to the cornea at the front of the eye.

2.2 Current treatment options depend on the severity of the condition. Lubrication treatments such as artificial tears and eye ointments are used and in moderate cases, as well as anti-inflammatory agents (including topical corticosteroids) and specialised eyewear. In severe cases, ocular preparations of ciclosporin may be used (which are not currently licenced for dry eye disease). The appraisal committee recognised that unlicensed ciclosporin preparations are commonly used in current practice. National-level
data detailing the usage of these treatments is not available and there is variation in local practice

2.3 The prevalence of dry eye disease is difficult to estimate as there is no defined diagnostic test. Although it can affect people of any age, it is more prevalent in women and in older people. It is reported in the company submission that 2.28% of adults have dry eye disease, and 6% of this population has severe dry eye disease.

Table 1 Number of people eligible for treatment in England and estimated uptake

<table>
<thead>
<tr>
<th>Population</th>
<th>Proportion</th>
<th>Number of people</th>
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</thead>
<tbody>
<tr>
<td>Total adult population</td>
<td></td>
<td>42,359,366</td>
</tr>
<tr>
<td>Prevalence of dry eye disease</td>
<td>2.28%</td>
<td>965,794</td>
</tr>
<tr>
<td>People with severe keratitis with dry eye disease that has not improved despite treatment with artificial tears</td>
<td>6.00%</td>
<td>57,948</td>
</tr>
<tr>
<td>Uptake for ciclosporin treatment</td>
<td>75.00%</td>
<td>43,461</td>
</tr>
</tbody>
</table>

2.4 It is estimated that approximately 58,000 people are eligible for ciclosporin each year.

3 Assumptions made

3.1 This report and the resource impact template assume the following:

- The prevalence of dry eye disease is uncertain. The company submitted an estimate of the population derived from 3 separate studies with differing gender and age groups. This estimated prevalence figure has been used in the resource impact template.

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• The number of people with severe dry eye disease eligible for ciclosporin is uncertain. The company submitted an estimate of the population which was developed from its own unpublished observational study of ophthalmology consultations. This estimated percentage figure has been used in the resource impact template.

• Clinical expert opinion estimates that up to 25% of eligible patients would not be treated with ciclosporin.

• The annual resource impact of ciclosporin, artificial tears and corticosteroids has been calculated by multiplying the cost listed on December 2015 Electronic Drug Tariff by the number of times it is expected to be taken.

• Clinical expert opinion suggests that within 5 years, around 43,000 people would have the Ikervis preparation of ciclosporin. Uptake is anticipated to be 15% in year 1, 30% in year 2, 50% in year 3, 60% in year 4 and 75% in year 5. From year 5 onwards the resource impact is assumed to remain constant.

4 Resource impact

4.1 Table 2 shows the estimated treatment population size and resource impact associated with implementing the guidance for the population of England. The saving results from a reduction in the price of medicines prescribed.

Table 2 Total resource impact of treatment for the population of England over 5 years

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<tbody>
<tr>
<td>Population having ciclosporin (Ikervis) each year</td>
<td>8,692</td>
<td>17,384</td>
<td>28,974</td>
<td>34,769</td>
<td>43,461</td>
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</tr>
</tbody>
</table>
4.2 For more detail, please refer to the ‘resource impact over time’ section of the resource impact template.

5 Other considerations

5.1 The resource impact of Ikervis has been modelled in a secondary care setting. If services were to be delivered in primary care the overall resource impact would reduce because VAT is payable on medicines issued from hospital pharmacies.

6 Summary of sensitivity analysis

6.1 A number of key assumptions have been varied to explore which has the greatest effect on the overall resource impact for this guidance. The full sensitivity analysis can be found in the ‘sensitivity analysis’ section of the resource impact template.

6.2 The variable with the greatest impact is the reduction in ciclosporin comparator prices in line with the figures quoted in the final appraisal document. If the lower prices are used, the resource impact of the guidance becomes a cost.

6.3 The variable with the second greatest impact is the number of people treated with Ikervis from year 5 onwards. The initial
assumption of 75%, based on clinical expert opinion, was varied between 33% and 88% in line with the lower and upper estimates in the company submission.

7 Implications for commissioners

7.1 Ciclosporin for treating dry eye disease that has not improved despite treatment with artificial tears falls under the programme budgeting category 8 (Problems of Vision).
About this resource impact report

This resource impact report accompanies the NICE technology appraisal guidance on ciclosporin for treating dry eye disease that has not improved despite treatment with artificial tears and should be read in conjunction with it. See terms and conditions on the NICE website.

This report is written in the following context

This report represents the view of NICE, which was arrived at after careful consideration of the available data and through consulting healthcare professionals. The report is an implementation tool and focuses on the recommendations that were considered to have a significant impact on national resource use.

Assumptions used in the report are based on assessment of the national average. Local practice may be different from this, and the impact should be estimated locally.

Implementation of the guidance is the responsibility of local commissioners and providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination,advance equality of opportunity and foster good relations. Nothing in this resource impact tool should be interpreted in a way that would be inconsistent with compliance with those duties.

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