Survey and analysis of the costs of metastatic colorectal cancer treatment in Slovakia

Jakub Rutkowski1, Mateusz Haldas2, Tomas Salek2, Kinga Ježděný3

1HTA Consulting Krakow, Poland 2National Cancer Institute, Bratislava 3Amgen GmbH, Head Office for Central & Eastern Europe

INTRODUCTION

• Colorectal cancer (CRC) is fourth most common malignant tumour in the world. Worldwide, one million new cases are reported every year, and in 2007 CRC was the cause of death of 210,000 men and 264,000 women globally.1 According to the World Health Organization (WHO), the standardised mortality ratio in Slovakia is currently 25.4 per 100,000 people.2

• This study was designed to assess the cost of first, second and third-line treatment in patients with metastatic CRC (mCRC) in Slovakia (as part of a multinational study) in order to examine current practice in Slovakia, especially the utilization of monoclonal antibodies, and to investigate possibility of introducing new biological therapies in current practice.

OBJECTIVES

Primary objectives:

• describe chemotherapy regimens used

• estimate chemotherapy regimens, supportive care and medical procedures.

Secondary objectives:

• estimate additional costs related to chemotherapy (additional medications and services).

• estimate the proportion of patients treated with particular chemotherapy regimens.

• estimate the proportion of patients who refused chemotherapy.

• describe the factors affecting treatment choice made by oncologists.

METHODS

• This was an expert opinion based study (based on the review of medical data). The data were collected by oncologists from 3 oncology centres in Slovakia, providing access to medical records of approximately 1,800 patients treated in 2008.

• Access to CEDAR was granted to the investigators. All connections were encrypted. Data on chemotherapy regimens used in clinical practice in the treatment of mCRC were collected and automatically validated by the application. Data on chemotherapy regimens used in clinical trials were excluded from the study.

• Direct medical costs from a public payer perspective were calculated from information provided by an oncologist on unit costs of medicines and procedures.

• Costs of chemotherapy regimens, supportive care and medical procedures.

RESULTS

Most commonly used regimens

• In first line therapy, the highest percentage of patients (almost 39%) was treated with regimens based on irinotecan, 5-FU, folinic acid and bevacizumab (IFL + bevacizumab BB and FOLFIRI + bevacizumab). 19% of patients received capcitabine in this line.

• In second line, the most commonly used regimen was cetuximab + irinotecan (39% of patients).

• Capcitabine was the most popular regimen in the third line (29% of patients), however also oxaliplatin + irinotecan (23%) and panitumumab (21%) were frequently used.

• The most popular regimens administered in the first, second or third line of treatment was cetuximab + irinotecan (39% of patients) and capcitabine (29%).

• Monoclonal antibodies were used in case of 39%, 36% and 42% of patients in the first, second and third line respectively. About 5% of patients received regimens with monoclonal antibody in at least one line of treatment.

• Less than 3% of patients refused chemotherapy.

Table 1. Chemotherapy regimens used in the treatment of mCRC in Slovakia

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Most Commonly Used Pathways</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOLFIRI + bevacizumab BB</td>
<td>39%</td>
</tr>
<tr>
<td>IFL + bevacizumab BB</td>
<td>36%</td>
</tr>
<tr>
<td>Mayo + bevacizumab</td>
<td>21%</td>
</tr>
<tr>
<td>Capcitabine</td>
<td>20%</td>
</tr>
<tr>
<td>Panitumumab</td>
<td>15%</td>
</tr>
<tr>
<td>Cetuximab + irinotecan</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 2. Most common paths of chemotherapy

<table>
<thead>
<tr>
<th>First line</th>
<th>Second line</th>
<th>Third line</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFX + bevacizumab</td>
<td>39%</td>
<td>5%</td>
</tr>
<tr>
<td>Capcitabine + irinotecan</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>IRI + bevacizumab BB</td>
<td>21%</td>
<td>5%</td>
</tr>
<tr>
<td>Mayo</td>
<td>15%</td>
<td>4%</td>
</tr>
<tr>
<td>IRI + bevacizumab BB</td>
<td>10%</td>
<td>6%</td>
</tr>
</tbody>
</table>

CONCLUSION

• Most commonly used regimens were capcitabine + irinotecan and capcitabine. The majority of patients received at least one regimen with monoclonal antibody during treatment of metastatic colorectal cancer. Less than 50% of patients were treated with a first line of chemotherapy.

• The average regimen cost was the highest in first-line therapy and decreased in the following lines. Costs of additional medications and services appeared to have minimal impact on the overall cost of therapy, irrespective of the treatment line.

• Regimens based on monoclonal antibodies incurred the highest costs. The average cost of these regimens was almost twice as expensive as the average cost of regimens without monoclonal antibodies.

• Ultimately, our study has shown that the use of targeted anti-cancer agents is associated with substantially high costs, however many studies have shown that they are also associated with survival gains, safety and reduction in adverse events.

REFERENCES