Budget Impact Analysis of Avelumab + Axitinib for the First-Line Treatment of Patients with Advanced Renal Cell Carcinoma

F. X. Liu, K. Heinrich, C. Neves, Y. Zheng, A. Kasle

SMD Service, a business of Merck KGaA, Darmstadt, Germany; Rosland, Massachusetts, USA; Pfizer Inc. New York, New York, USA; BresMed Health Solutions Ltd, Sheffield, United Kingdom; BresMed America, Inc. Las Vegas, Nevada, USA

BACKGROUND

- Annualized market share (AMS) of 2% is the most conservative estimate of today's size of the $15 billion advanced renal cell carcinoma (RCC) market in the US
- The model is based on new evidence that included the positive results of the Checkmate 214 trial presented at the 2018 ASCO annual meeting and the Checkmate 227 trial presented at the 2018 ESMO annual meeting

OBJECTIVE

- To assess the budget impact of adding A + Ax to a treatment option in RCC and EEC in a commercial payer setting

METHODS

- A Markov model was used to simulate the treatment pathway of patients with advanced RCC
- The model was run for 3 years
- The base-case scenario included patients starting treatment in 2020
- Two sensitivity analyses were performed: one for 2021
- Healthcare data from a US commercial health plan of 1,000,000 members

RESULTS

- Cost per treatment course per patient: $0.06
- A + Ax costs: $142,961
- A + Ax incremental budget impact in 2019: $17,060

CONCLUSIONS

- The model included the European drug price
- The results of the one-way sensitivity analysis are presented in Figure 2
- The analysis adopted a payer perspective, so societal and other indirect costs were not included in the budget impact analysis

REFERENCES

- The results of the one-way sensitivity analysis are presented in Figure 2
- The analysis adopted a payer perspective, so societal and other indirect costs were not included
- Several sensitivity analyses were performed to test the robustness of the model, including a one-way sensitivity analysis to observe impact of varying epidemiology, cost, and clinical input parameters by their upper and lower bounds

DISCLOSURES

- The study was sponsored by Merck KGaA, Darmstadt, Germany, and was carried out on behalf of the Merck KGaA, Darmstadt, Germany
- The study was funded by Merck KGaA, Darmstadt, Germany
- The authors have no conflicts of interest to disclose

Table 1. Model structure schematic

<table>
<thead>
<tr>
<th>Stage</th>
<th>Transition Probability</th>
<th>Cost per Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>1.00</td>
<td>$0.06</td>
</tr>
<tr>
<td>Treatment</td>
<td>0.75</td>
<td>$142,961</td>
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<tr>
<td>Treatment success</td>
<td>0.90</td>
<td>$0.06</td>
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<tr>
<td>Treatment failure</td>
<td>0.05</td>
<td>$142,961</td>
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<tr>
<td>Death</td>
<td>0.05</td>
<td>$0.06</td>
</tr>
</tbody>
</table>

Table 2. Drug acquisition and administration costs for 4 treatments

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Drug Acquisition Cost</th>
<th>Administration Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment 1</td>
<td>$4,790.20</td>
<td>$17,870.16</td>
</tr>
<tr>
<td>Treatment 2</td>
<td>$160,182</td>
<td>$1,487,406</td>
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<tr>
<td>Treatment 3</td>
<td>$15,122,361</td>
<td>$8,640</td>
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<td>Treatment 4</td>
<td>$56,461</td>
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Figure 1. Model structure schematic

Figure 2. Incremental budget impact results

Figure 3. Sensitivity analysis

Budget impact analysis from the Medicare perspective

- The model includes the US Medicare drug pricing
- The results of the one-way sensitivity analysis are presented in Figure 3
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LIMITATIONS AND ASSUMPTIONS

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Table 1. Utilization rates

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<th>Days on Treatment</th>
<th>Months on Treatment</th>
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<tr>
<td>Treatment 1</td>
<td>100</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Treatment 2</td>
<td>100</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>Treatment 3</td>
<td>100</td>
<td>90</td>
<td>30</td>
</tr>
<tr>
<td>Treatment 4</td>
<td>100</td>
<td>120</td>
<td>40</td>
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