ECONOMIC SAVINGS FROM WEIGHT-BASED DOSING OF PEMBROLIZUMAB: WHAT IS THE IMPACT IN A TERTIARY HOSPITAL?


BACKGROUND

Pembrolizumab is a humanised monoclonal antibody targeting PD-1 approved by EMA in 2015. Currently, it has approval for several indications and is widely used.

OBJECTIVES

To calculate the budget impact difference of administering pembrolizumab at a personalized weight dose of 2 mg/kg every 3 weeks (Q3W) or 4 mg/kg every 6 weeks (Q6W) instead of fixed dose of 200 mg (Q3W) or 400 mg (Q6W).

MATERIAL AND METHODS

✓ Retrospective observational descriptive study
✓ Patients treated with pembrolizumab in all indications (July 2020 - June 2021)
✓ Collected variables: sex, weight, milligrams administered, number of cycles, vials used.
✓ Evaluation: Cost per milligram and per cycle and cost for two treatment strategies: cycles of 2 mg/kg (Q3W) or 4 mg/kg (Q6W) versus 200 mg (Q3W) or 400 mg (Q6W).
✓ All dispensations were transformed to cycles of Q3W for calculations.

RESULTS

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

16 pathologies

Bodyweight 72±13 kg
Average cycles 8.3±6.9
Average dose prescribed 145±26 mg

CONCLUSION

✓ Pembrolizumab fixed dose presents practical benefits in terms of prescription and preparation, but also an extra cost regarding our patients’ population in all indications
✓ Weight-based dosing significantly reduces the cost of pembrolizumab and it is a good option in the era of personalised medicine.

BACKGROUND

To calculate the budget impact difference of administering pembrolizumab at a personalized weight dose of 2 mg/kg every 3 weeks (Q3W) or 4 mg/kg every 6 weeks (Q6W) instead of fixed dose of 200 mg (Q3W) or 400 mg (Q6W).

MATERIAL AND METHODS

✓ Retrospective observational descriptive study
✓ Patients treated with pembrolizumab in all indications (July 2020 - June 2021)
✓ Collected variables: sex, weight, milligrams administered, number of cycles, vials used.
✓ Evaluation: Cost per milligram and per cycle and cost for two treatment strategies: cycles of 2 mg/kg (Q3W) or 4 mg/kg (Q6W) versus 200 mg (Q3W) or 400 mg (Q6W).
✓ All dispensations were transformed to cycles of Q3W for calculations.

RESULTS

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

16 pathologies

Bodyweight 72±13 kg
Average cycles 8.3±6.9
Average dose prescribed 145±26 mg

CONCLUSION

✓ Pembrolizumab fixed dose presents practical benefits in terms of prescription and preparation, but also an extra cost regarding our patients’ population in all indications
✓ Weight-based dosing significantly reduces the cost of pembrolizumab and it is a good option in the era of personalised medicine.

BACKGROUND

To calculate the budget impact difference of administering pembrolizumab at a personalized weight dose of 2 mg/kg every 3 weeks (Q3W) or 4 mg/kg every 6 weeks (Q6W) instead of fixed dose of 200 mg (Q3W) or 400 mg (Q6W).

MATERIAL AND METHODS

✓ Retrospective observational descriptive study
✓ Patients treated with pembrolizumab in all indications (July 2020 - June 2021)
✓ Collected variables: sex, weight, milligrams administered, number of cycles, vials used.
✓ Evaluation: Cost per milligram and per cycle and cost for two treatment strategies: cycles of 2 mg/kg (Q3W) or 4 mg/kg (Q6W) versus 200 mg (Q3W) or 400 mg (Q6W).
✓ All dispensations were transformed to cycles of Q3W for calculations.

RESULTS

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

16 pathologies

Bodyweight 72±13 kg
Average cycles 8.3±6.9
Average dose prescribed 145±26 mg

CONCLUSION

✓ Pembrolizumab fixed dose presents practical benefits in terms of prescription and preparation, but also an extra cost regarding our patients’ population in all indications
✓ Weight-based dosing significantly reduces the cost of pembrolizumab and it is a good option in the era of personalised medicine.

BACKGROUND

To calculate the budget impact difference of administering pembrolizumab at a personalized weight dose of 2 mg/kg every 3 weeks (Q3W) or 4 mg/kg every 6 weeks (Q6W) instead of fixed dose of 200 mg (Q3W) or 400 mg (Q6W).

MATERIAL AND METHODS

✓ Retrospective observational descriptive study
✓ Patients treated with pembrolizumab in all indications (July 2020 - June 2021)
✓ Collected variables: sex, weight, milligrams administered, number of cycles, vials used.
✓ Evaluation: Cost per milligram and per cycle and cost for two treatment strategies: cycles of 2 mg/kg (Q3W) or 4 mg/kg (Q6W) versus 200 mg (Q3W) or 400 mg (Q6W).
✓ All dispensations were transformed to cycles of Q3W for calculations.

RESULTS

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

16 pathologies

Bodyweight 72±13 kg
Average cycles 8.3±6.9
Average dose prescribed 145±26 mg

CONCLUSION

✓ Pembrolizumab fixed dose presents practical benefits in terms of prescription and preparation, but also an extra cost regarding our patients’ population in all indications
✓ Weight-based dosing significantly reduces the cost of pembrolizumab and it is a good option in the era of personalised medicine.