Table 1. Summary of patients’ characteristics stratified by treatment type.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>PD1 (n=284)</th>
<th>IPIT+PD1 (n=249)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (n, %)</td>
<td>173 (61)</td>
<td>173 (70)</td>
<td>0.045</td>
</tr>
<tr>
<td>Age (median, range)</td>
<td>73 (26–93)</td>
<td>62 (22–97)</td>
<td>0.366</td>
</tr>
<tr>
<td>BRAF V600E (n, %)</td>
<td>40 (15)</td>
<td>75 (33)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>EGCS PS 1 (n, %)</td>
<td>133 (53)</td>
<td>79 (34)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>AJCC staging M1d (n, %)</td>
<td>43 (15)</td>
<td>76 (31)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Elevated LDH (n, %)</td>
<td>130 (50)</td>
<td>132 (56)</td>
<td>0.151</td>
</tr>
</tbody>
</table>

Background

- Immune checkpoint inhibitors, including PD1 and anti-CTLA-4 (ipilimumab), have greatly improved survival rates in patients with advanced melanoma patients, with better overall survival (OS) with PD1+IPD1 compared to PD1 (5-year OS rate of 52% vs 44%)1.
- Liver metastases have been associated with poor response and survival in patients with metastatic melanoma treated with PD1 alone2,3 or with PD1+IPD13,4. Whether these patients benefit from IPD1 over PD1 is unknown.

Objectives

In patients with melanoma liver metastases, we sought to:

- Identify objective response rate (ORR), progression-free survival (PFS) and overall survival (OS) to PD1 vs IPD1.
- Identify clinical factors associated with response and survival to PD1+/IPD1.
- Multiple imputation was used address missing values.

Methods

- Cohort: 533 patients with metastatic melanoma with liver metastases treated with 1st line PD1 or IPD1 at 8 centers from Australia, Europe and USA.
- Variables: Demographics, patient and disease characteristics, baseline blood parameters, and clinical outcomes
- Endpoints: ORR, PFS and OS
- Statistical Analysis:
  - Univariate and multivariate (MVA) analyses were performed to identify clinical factors associated with response and survival.
  - Multiple imputation was used address missing values.

Results

- Table 1. Summary of patients’ characteristics stratified by treatment type.
- Table 2. Multivariate (MVA) analyses to identify clinical factors associated with response and survival
- FIGURE 1A. Objective response, Progression-free & Overall Survival to PD1 monotherapy (n=284) or in combination with IPI (n=249)
- FIGURE 1B. Objective response, Progression-free & Overall Survival to PD1+PD monotherapy (n=260) or in combination with IPI (n=237)
- FIGURE 2. Reason for ceasing PD1 (n=260) or IPD1 (n=237)

Conclusions

- In patients with liver metastases, 1st line IPD1 showed higher ORR and improved survival compared with PD1 alone.
- In the absence of prospective randomized trials addressing this research question, findings from this large multicentre retrospective study will help guide treatment selection for patients with melanoma liver metastases.

References

- Larink J, et al. NEJM 2019
- Tuneh P, et al. JCO 2017
- Pires da Silva I, et al. JCO 2022
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- Advisory board: MSD

Acknowledgements

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- Melanoma Institute Australia
- Lady Mary Fairfax Charitable Trust

Table 2. Multivariate (MVA) analyses to identify clinical factors associated with response and survival

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Models for response</th>
<th>Models for PFS</th>
<th>Models for OS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (CI)</td>
<td>HR (CI)</td>
<td>HR (CI)</td>
</tr>
<tr>
<td>Male vs Female</td>
<td>1.03 [0.69,1.52]</td>
<td>0.90 [0.62,1.31]</td>
<td>0.459 [0.285,0.745]</td>
</tr>
<tr>
<td>Age</td>
<td>1.40 [1.15,1.72]</td>
<td>0.83 [0.73,0.93]</td>
<td>0.001 [0.90,0.99]</td>
</tr>
<tr>
<td>Subtype</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occult</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutaneous</td>
<td>1.27 [0.70,2.31]</td>
<td>0.433 [0.21,0.87]</td>
<td>0.285 [0.14,0.57]</td>
</tr>
<tr>
<td>Atrial</td>
<td>0.12 [0.03,0.56]</td>
<td>0.008 [0.00,0.09]</td>
<td>&lt;0.001 [0.00,0.00]</td>
</tr>
<tr>
<td>Mucosal</td>
<td>0.55 [0.22,1.36]</td>
<td>0.193 [0.01,0.37]</td>
<td>0.037 [0.03,0.15]</td>
</tr>
<tr>
<td>Mutation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRAF V600</td>
<td>1.02 [0.56,1.83]</td>
<td>0.955 [0.68,1.37]</td>
<td>0.997 [0.75,1.25]</td>
</tr>
<tr>
<td>NRAS mut</td>
<td>1.00 [0.68,1.47]</td>
<td>1.00 [0.68,1.47]</td>
<td>1.14 [0.75,1.72]</td>
</tr>
<tr>
<td>BRAF/NRAS WT</td>
<td>1.48 [0.89,2.48]</td>
<td>1.30 [0.70,2.02]</td>
<td>0.222 [0.08,0.43]</td>
</tr>
<tr>
<td>EGCS PS &gt;= 1 vs 0</td>
<td>0.68 [0.46,1.02]</td>
<td>0.060 [0.01,1.30]</td>
<td>0.003 [0.00,0.00]</td>
</tr>
<tr>
<td>AJCC staging M1d vs M1c</td>
<td>0.96 [0.61,1.52]</td>
<td>0.869 [0.49,1.57]</td>
<td>0.277 [1.12,2.04]</td>
</tr>
<tr>
<td>LDH elevated vs normal</td>
<td>0.77 [0.53,1.11]</td>
<td>0.160 [0.01,1.30]</td>
<td>0.015 [0.01,0.01]</td>
</tr>
<tr>
<td>IPD1 vs PD1</td>
<td>2.21 [1.46,3.36]</td>
<td>&lt;0.001 [0.00,0.00]</td>
<td>0.009 [0.00,0.00]</td>
</tr>
</tbody>
</table>