In this retrospective, observational study using data collated from administrative healthcare databases in the USA, we describe real-world characteristics, treatment patterns, healthcare resource utilisation (HCRU), and cost of patients with metastatic cutaneous squamous cell carcinoma (CSCC), a rare and highly morbid disease.

**Background**

- Advanced CSCC, which includes metastatic and locally advanced disease, is not suitable for curative intent based on poor prognosis and high mortality.
- Median survival (SM) is highly variable, with the US Food and Drug Administration (FDA) indication for programmed cell death-1 (PD-1) checkpoint inhibitors limited to patients with locally advanced or metastatic CSCC who are not candidates for curative surgery or radiation.
- As of 2020, the US FDA has approved dabrafenib for patients with metastatic CSCC that is not suitable by surgery or radiation.
- Current studies have limitations, including a lack of real-world and outcomes of patients with locally advanced or metastatic CSCC. Databases used here are a cohort of patients identified through administrative claims data.

**Objectives**

- To describe real-world characteristics, treatment patterns, resource utilisation (HCRU), and costs of patients with metastatic CSCC, using data retrospectively collected from administration claims databases.

**Methods**

- The retrospective observational study was conducted using data from the IBM MarketScan® Commercial and Medicare Supplemental Databases from 1 January 2013 to 31 July 2019. The retrospective analysis consisted of three periods: the index date, defined as the first systemic treatment administration date, or the start of follow-up for patients who were never treated, and the end of follow-up for patients who did not have evidence of death. The index date was defined as the first systemic treatment administration date or the start of follow-up for patients who were never treated.

**Results**

A total of 207 patients met the eligibility criteria for the study. Median overall survival (OS) from the initiation of first-line treatment is 16.2 months (95% confidence interval [CI], 10.4–22.0). Median survival post-index date was 12.1 (95% CI, 10.4–16.8). Eligible patients had:

- Male, n (%) 158 (76.3)
- &ge;65 years, n (%) 93 (45.0)
- Southwest, n (%) 32 (15.5)
- &ge;6 months follow-up, n (%) 142 (68.5)

**Limitations**

- There is a potential for misclassification of CSCC, clinical characteristics or study outcomes, as patients were identified through administrative claims data.
- This study was unable to examine newly approved treatment due to the study window.
- Future studies using real-world data and outcomes may provide more up-to-date treatment patterns.

**Conclusions**

- The prognosis of patients with metastatic CSCC was generally poor.
- Median survival post-index date was 12.1 (95% CI, 10.4–16.8).
- Eligible patients had:
  - Median overall survival (OS) from the initiation of first-line treatment is 16.2 months (95% CI, 10.4–22.0).
  - Median survival post-index date was 12.1 (95% CI, 10.4–16.8).
  - Eligible patients had:
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**Table 1. Patient demographics and baseline characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, n (%)</td>
<td>158 (76.3)</td>
</tr>
<tr>
<td>≥65 years, n (%)</td>
<td>93 (45.0)</td>
</tr>
<tr>
<td>Southwest, n (%)</td>
<td>32 (15.5)</td>
</tr>
<tr>
<td>≥6 months follow-up, n (%)</td>
<td>142 (68.5)</td>
</tr>
</tbody>
</table>

**Table 2. Treatment patterns and lines of therapy**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Patients with metastatic CSCC treated with systemic therapy N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>207 (100)</td>
</tr>
<tr>
<td>First-line</td>
<td>157/207 (75.8)</td>
</tr>
<tr>
<td>Second-line</td>
<td>33/40 (82.5)</td>
</tr>
<tr>
<td>Third-line</td>
<td>12/12 (100)</td>
</tr>
</tbody>
</table>

**Table 3. CSCC-specific healthcare expenditure in the follow-up period**

<table>
<thead>
<tr>
<th>Healthcare expenditure</th>
<th>PPM (mean [SD])</th>
<th>PMPM (mean [SD])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total costs</td>
<td>$3340.51 ($408.84)</td>
<td>$13.34 ($1.56)</td>
</tr>
<tr>
<td>Adjuvant chemotherapy</td>
<td>$184.10 ($17.14)</td>
<td>$1.34 ($0.12)</td>
</tr>
<tr>
<td>Surgical procedures</td>
<td>$123.60 ($13.26)</td>
<td>$0.94 ($0.10)</td>
</tr>
<tr>
<td>Medication</td>
<td>$788.60 ($84.91)</td>
<td>$6.09 ($0.67)</td>
</tr>
</tbody>
</table>

**Figure 1. Kaplan-Meier survival curves of survival probability (A) after index date, primary site, and sex**

- Survival probability after index date (A).
- Survival probability at 6 and 12 months was 76% and 50%, respectively.
- Median survival post-index date was 12.1 (95% confidence interval [CI], 10.4–16.8).

**Figure 2. Kaplan-Meier survival curves of survival probability by index date, primary site, and sex**

- Survival probability after index date (A).
- Survival probability at 6 and 12 months was 76% and 50%, respectively.
- Median survival post-index date was 12.1 (95% CI, 10.4–16.8).

**References**


**Disclosure**

- Emily Ruiz and Chieh-I Chen are employees of Regeneron Pharmaceuticals, Inc.
- Nicole M. Zimmerman is an employee of Regeneron Pharmaceuticals, Inc.
- Gerasimos Kondilis is an employee of Regeneron Pharmaceuticals, Inc.
- Xue Song is an employee of Regeneron Pharmaceuticals, Inc.
- This study was funded by Regeneron Pharmaceuticals, Inc., and Sanofi.
- The authors report no conflicts of interest.

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