Poster
TCL-458

Real-World Treatment Patterns in Patients with Sézary Syndrome in the United States and the Impact of Covid-19

Y. Zhao, PhD[1]; J. Tang, MSc[1]; H. Zhou, MS[2]; T. Takahashi, PhD[3]; T. Nomura, PhD[3]; E. Dennis, MD[1]; O. Akilov, MD[4].

[1]Kyowa Kirin, Inc. Bedminster, NJ, USA; [2]KMK Consulting Inc., Morristown, NJ, USA; [3]Kyowa Kirin, Ltd., Tokyo, Japan ; [4]Cutaneous Lymphoma Program, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

Introduction

- Sézary syndrome (SS) is one of the most aggressive subtypes of cutaneous T-cell lymphoma (CTCL), comprising roughly 5% of cases in the United States (US) [1,2]
- Given that SS includes blood involvement [3], more patients require treatment with systemic therapies and bone marrow transplant as compared to other CTCL subtypes [4]
  - Due to the chronic nature of SS, patients often receive repeated lines of treatment and maintenance therapies [5]
- To our knowledge, there are no published reports on real-world treatment patterns over time of currently available therapies for SS, likely due to difficulty of collecting this data in a disease with a very low prevalence
- Recent approvals of new agents for patients with CTCL as well as the COVID-19 pandemic may also impact treatment patterns

Objectives

- To examine the real-world treatment patterns and the impact of COVID-19 among SS patients treated in 2018-2020 in the US

Methods

Data Source

- This study used de-identified patient-level data from Symphony Health Solutions' Integrated Dataverse database (SHS), a longitudinal patient data source that tracks 274 million active patients in the US
  - SHS data are integrated from medical practices, pharmacies, and hospitals to longitudinally assess healthcare delivery and patient usage patterns
  - Data are considered representative of the US population in terms of age, sex, geography, and insurance coverage
- Medical, prescription, and hospital claims data were linked through de-identified patient codes

Population

- Adult patients with public or private insurance and ≥1 diagnosis code for SS (ICD-10-CM: C84.1x) were classified into 3 non-mutually exclusive cohorts according to diagnosis code year: 2018, 2019, and 2020

Variables

- Patient demographics (i.e., age, sex)
- All treatments recommended by the National Comprehensive Cancer Network guidelines, version 2.2021
  - Systemic therapy: extracorporeal photopheresis (ECP), parenteral, and oral agents
  - Skin-directed therapy: topical, local radiation, total skin electron beam therapy, and phototherapy
  - Bone marrow transplant
- National drug codes, current procedural terminology, and healthcare common procedure coding system codes were used to identify all treatments

Analyses

- Descriptive statistics were reported for the patient characteristics
- Treatment usage rates were reported for each year of study
- The impact of COVID-19 was assessed through a quarterly analysis

Results

- Overall, 869, 882, and 853 patients had ≥1 SS diagnosis in 2018, 2019, and 2020, respectively (mean age: 66.3, 66.9, and 67.3 years; male: 54.4%, 54.8%, and 55.6%, respectively)
- Systemic therapy usage increased from 2018 to 2020 from 41.8% to 46.5% (increased use of parenteral therapy; decreased use of ECP)
- Skin-directed therapy usage increased from 2018 to 2020 from 48.9% to 52.9% (increased use of topical; decreased use of phototherapy)
- Among systemic therapies, ECP, mogamulizumab, and bexarotene were the most commonly prescribed in 2019-2020 (Figure 2)
  - Of which, mogamulizumab was the only therapy with increased usage over time

Figure 1. Distribution by age

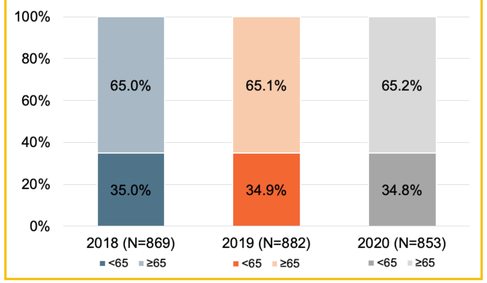


Table 1. Treatment claims among patients with SS

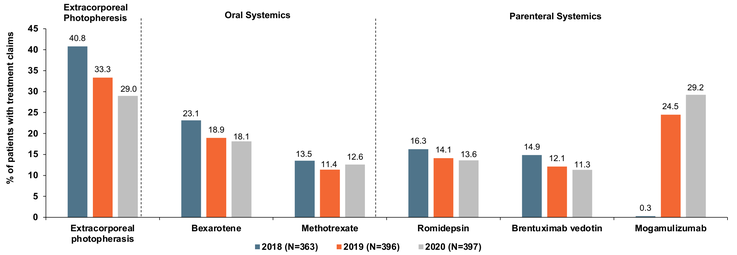
	2018 (N=869)		2019 (N=882)		2020 (N=853)	
	n	%	n	%	n	%
Any therapy	561	64.6	597	67.7	587	68.8
Systemic therapy	363	41.8	396	44.9	397	46.5
Extracorporeal photopheresis	148	17.0	132	15.0	115	13.5
Parenteral systemic	180	20.7	240	27.2	245	28.7
Oral systemic	155	17.8	137	15.5	151	17.7
Skin directed therapy	425	48.9	460	52.2	451	52.9
Topical	368	42.3	409	46.4	412	48.3
Local radiation	67	7.7	68	7.7	57	6.7
Total skin electron beam therapy	62	7.1	71	8.0	59	6.9
Phototherapy	55	6.3	44	5.0	35	4.1
Bone marrow transplant	13	1.5	12	1.4	7	0.8

Note: Patients with multiple treatments were counted in many categories

Results

- ECP use decreased from Q1-Q4 within each year and across all three years of study
  - There was a notable dip in ECP use during Q2 2020, coinciding with the start of the COVID-19 pandemic
- Parenteral systemic therapy use decreased from Q1-Q4 in 2018, however, there was an increasing trend in 2019 and 2020
  - Parenteral systemic therapy was the most commonly used therapy in each quarter of 2019 and 2020
  - The quarterly usage was much higher in 2019 than in 2018, and the increasing trend continued in 2020, especially after the start of the COVID-19 pandemic in Q2 2020
  - Despite the increasing trend, utilization in Q4 2020 was lower than that of Q3 2020
- Oral systemic therapy use decreased from Q1-Q4 in 2018, usage remained relatively stable across Q1-Q4 in 2019, and there was an increasing trend from Q1-Q4 2020
  - The quarterly usage was higher in 2020 than in 2019
  - Despite the increasing trend, there was a notable dip in utilization in Q2 2020 which coincided with the start of the COVID pandemic

Figure 2. Most commonly used treatments among SS patients with systemic therapy claims



Note: All numbers were calculated among SS patients treated with any systemic therapies. Patients with multiple treatments were counted in many categories.

Figure 3. Quarterly treatment claims of systemic therapies among patients with SS

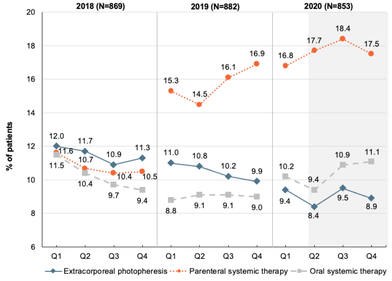
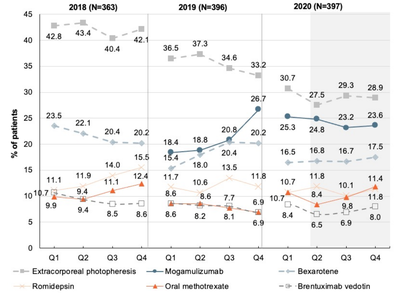


Figure 4. Most commonly used treatments, by quarter, among SS patients with systemic therapy claims



Note: Grey highlighting indicates the period in which COVID-19 impacts are most likely to have occurred. Rates represent the number of patients with a claim in a given quarter divided by the number of SS patients with a systemic therapy prescription in that year. As such, quarterly treatment claims in Figure 3 may not sum to the yearly treatment claims in Table 1; and quarterly treatment claims in Figure 4 may not sum to the yearly treatment claims in Figure 2.

Limitations

- SS patients were identified using diagnosis codes, which may result in misclassification due to coding error and patients may not be identified due to incomplete diagnosis capture in the database
- All SS treatments were identified using claims captured in the SHS database, therefore may not reflect the full utilization
- Information on disease severity was not available
- Study results from this analysis may not be generalizable to a population with different insurance coverage or patient characteristics (i.e., age, sex)

Conclusions

- Overall, there was an increased usage for both systemic therapy and skin-directed therapy among SS patients between 2018 and 2020
- ECP, bexarotene, and romidepsin, along with other systemic therapies demonstrated reduced utilization between 2018 and 2020
- Mogamulizumab became the most prescribed systemic therapy for SS in 2020, following its 2018 approval
- Quarterly analysis indicated that the drop in ECP and oral systemic usage in Q2 2020 coincided with the onset of the COVID-19 pandemic
  - There was stable use of parenteral systemic during 2020

References

1. Dobos G, et al. Epidemiology of cutaneous T-cell lymphomas: A systematic review and meta-analysis of 16,953 patients. *Cancers (Basel)*. 2020; 12(10), 2921.
2. Imam MH, et al. Incidence and survival patterns of cutaneous T-cell lymphomas in the United States. *Leuk Lymphoma*. 2013; 54(4): 752–759.
3. Vakiti A, Padala SA, Singh D. Sezary Syndrome. [Updated 2020 Aug 16]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan.
4. Ling YI, et al. Real-world use of extracorporeal photopheresis for patients with cutaneous T-cell lymphoma in the United States: 2010–2015. *J Dermatological Treat*. 2020;31(1):91-98.
5. Argnani L, Broccoli A, Zinzani PL. Cutaneous T-cell lymphomas: Focusing on novel agents in relapsed and refractory disease. *Cancer Treat Rev*. 2017; 61, 61–69.

Presented at SOHO, 2022

Sponsored by Kyowa Kirin, Inc.