USE OF PD-1 AND PD-L1 INHIBITORS AFTER FIRST-LINE THERAPY IN ESOPHAGEAL CANCER PATIENTS IN THE US

Jason C. Allaime, Ph.D.1; Mark Balk, PharmD, MS, BCPS2; Soraya Azmi, MBBS, MPH3; Heather L. Handl, Ph.D.4; Keri Yang, Ph.D. MPH5; Gisoo Barnes, Ph.D.2

1Generativity Health Economics and Outcomes Research; 2BeiGene, Ltd.

INTRODUCTION

• Esophageal cancer (EC), which includes esophageal squamous cell carcinoma (ESCC) and esophageal adenocarcinoma (EAC), makes up only 3.2% of all cancers but ranks as the seventh most common cancer and sixth among cancer-related deaths worldwide.
  - The incidence of EC in the US has risen over the last 20 years, with an estimated 18,440 new cases and 16,170 deaths in 2020.
• The direct economic burden of EC in the US was estimated at $1.7 billion in 2018, and patient-specific costs vary widely by histology, stage, and treatment.
• Several immunotherapies are in clinical development or have been approved to treat patients with EC, especially refractory disease.
  - These include inhibitors of the programmed cell death protein-1 (PD-1) receptor such as pembrolizumab and nivolumab and inhibitors of the programmed death-ligand 1 (PD-L1) such as atezolizumab, durvalumab and avelumab.
• Previous studies have examined the real-world usage of PD(L)1 inhibitors in EC patients.
  - Consequently, the overarching objective of this real-world claims analysis was to determine the use of PD(L)1 inhibitors following first-line therapy in EC patients.
  - The analysis also sought to determine the proportion of EC patients that switch to PD(L)1 inhibitors after receiving first-line therapy and to examine which specific PD(L)1 inhibitors are utilized in these patients.

MATERIALS

Data Source and Cohort Creation

• Newly-diagnosed EC (including both adenocarcinoma and squamous cell carcinoma) patients were identified in the IBM MarketScan Commercial and Medicare Supplemental databases during the study period of May 1, 2015 (approval of first PD(L)1 inhibitors in the US) through October 31, 2019.
• Eligible patients met the following criteria:
  - At least one claim for EC (ICD-9-CM: 150.x, ICD-10-CM: c15.3, c15.4, c15.5, c15.8, c15.9) during the study period.
  - No previous EC claim prior to study period.
  - Continuous enrollment at least 60 days prior to and 60 days after first EC claim.
• Of the total 6,077 EC patients that began first-line therapy, 379 (6.2%) received a PD(L)1 inhibitor (i.e., pembrolizumab, nivolumab, atezolizumab, avelumab, durvalumab, cemiplimab-rwlc).

RESULTS

A total of 6,077 newly diagnosed EC patients starting first-line therapy were identified.

First-Line Therapy

• Overall, the average age of patients at date of diagnosis was 62.6 years (standard deviation [SD] = 11.4) and 23.1% of patients were female.

First-Line Therapy Cohort

| Characteristic | All Patients | Chemotherapy Only | Radiation Only | Chemoradia- }| Surgery | p
|----------------|-------------|------------------|---------------|----------------|
| Age, mean (SD) | 62.3 (11.4) | 64.2 (11.9) | 64.2 (12.4) | 62.1 (11.5) | 62.7 (11.4) | <0.05
| Female, n (%)  | 1,652 (27.1) | 499 (24.2) | 624 (25.9) | 619 (23.4) | 689 (25.5) | <0.05
| Time to first-line, days | 23.0 (20.3) | 22.0 (20.4) | 22.0 (20.4) | 21.3 (20.4) | 22.0 (20.0) | <0.05
| Mean (SD)      | 57.2 (12.7) | 45.8 (11.4) | 72.0 (13.3) | 27.3 (13.3) | 46.4 (7.8) | <0.05

DISCUSSION

The use of PD(L)1 inhibitors increased over the five years of the study period (Figure 1).

The specific PD(L)1 inhibitors that were utilized in each of the cohorts are presented in Figure 2.

REFERENCES


DISCLOSURE

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