Real-World First-Line Treatment Patterns among US Carcinoid Syndrome Patients

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BACKGROUND

- Initial systemic therapy for carcinoid syndrome (CS), a condition caused by active neuroendocrine tumors, often consists of somatostatin analogues (SSA) such as octreotide.[1]
- Although many treatments for CS have been described, the typical duration of each treatment in clinical practice is unknown. There is also a lack of consensus on ideal sequencing of therapies for CS.

OBJECTIVE

- The study objective was to utilize a commercial claims database to describe multiple lines of CS treatment in real-world clinical practices.

METHODS

Study Design and Data Source

- Retrospective cohort study using MarketScan® from 1/1/2003 to 12/31/2012.

Patient Identification

- Patients newly diagnosed with CS had 1 medical claim for CS (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] code 259.2) plus ≥1 additional claim for either CS or carcinoid tumors (ICD-9-CM 209.x), in any diagnostic field.
- The index date was the date of first evidence of CS during a 1-year identification (ID) period (1/1/2003 – 12/31/2011). All patients were disease-free for 1 year prior to the diagnosis of CS and were followed for 1 year after diagnosis.
- Patients were excluded if there was evidence of CS during the ID period or they were not continuously enrolled during the ID period or for 1 year after the index date.

Treatments of Interest

- Octreotide subcutaneous (SC) and long-acting repeatable (LAR)
- Lanreotide
- Cytotoxic chemotherapy: doxorubicin, fluorouracil or 5-FU, cisplatin, carboplatin, etoposide, temozolomide, streptozocin
- Everolimus
- Sunitinib
- Interferon: interferon alfa 2a, interferon alfa 2b, and pegylated alfa-2b
- Non-medical treatments (e.g., liver resection, transplantation, or embolization)

Graphical Analysis

- A graphical program (GRAPHx 1.0, Partnership for Health Analytic Research, LLC, Beverly Hills, CA) was used to describe treatment patterns for each patient.

RESULTS

- There were 2,822 newly diagnosed patients with CS in the entire cohort.
- Within the cohort, 885 (31.4%) received a pharmacologic agent as initial treatment.
  - 487 (55.0%) received octreotide LAR.
  - 228 (25.8%) received octreotide SC.
  - 139 (15.7%) received cytotoxic chemotherapy.
  - The remainder received a combination of the above agents or other drugs.
- **Figure 1** demonstrates detailed treatment patterns with observational periods lasting from <1 year up to 10 years.
  - First-line octreotide LAR may be used continuously for up to 7 years
  - In certain patients who used first-line octreotide SC, subsequent use of octreotide LAR lasted for as long as 9 years.

LIMITATIONS

- Some patients were censored due to disenrollment or end of study, which may artificially reduce the length of time observed on a given treatment.
- Claims databases lack clinical information, which could potentially explain reasons for changes in therapy.

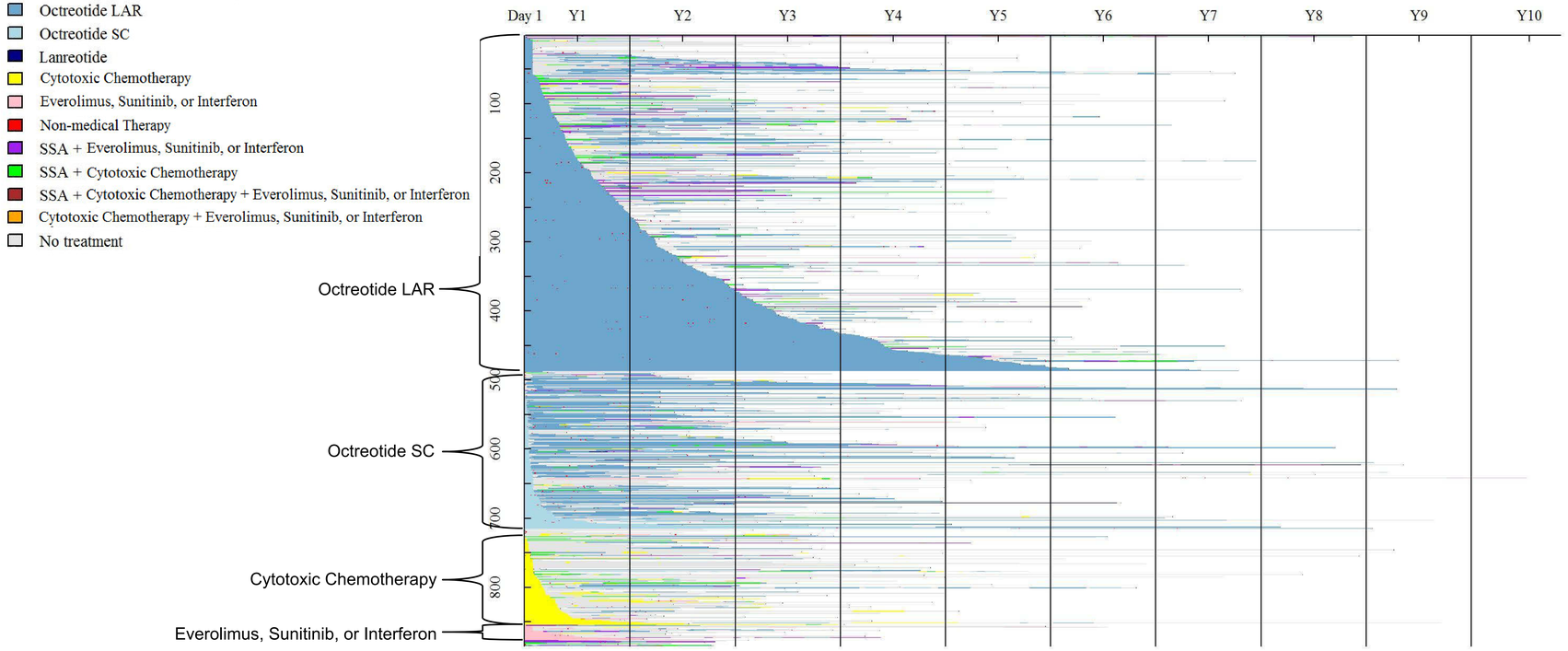
CONCLUSIONS

- A substantial proportion of CS patients who received octreotide LAR remained on the drug for multiple years.
- Use of registries or electronic medical records, with long durations of follow-up, may ameliorate the issue of censorship due to disenrollment from claims.

References

1. Boudreaux JP, et al. *Pancreas*. 2010 Aug;39(6):753-66.

FIGURE 1: Treatment Patterns among Patients Initially Receiving Drug Therapy (n = 885)



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