Treatment Options and Outcomes in Locally Advanced Squamous Cell Carcinoma of the Head and Neck (SCCHN): A Literature Review

Vy N. Do, PharmD Candidate, David Fox, PharmD

Background

Head and neck cancer is the seventh most common type of cancer in the world and accounts for approximately 4% of all cancers in the United States. 1,2 Squamous cell carcinoma of the head and neck (SCCHN) has an stimated annual incidence of 16/100,000 in the US with most patients presenting with locally advanced (LA) cancer. A combined approach to LA SCCHN includes definitive therapy (DT), consisting of surgery and/or radiotherapy, and systemic therapy with chemotherapy/anti-EGFR agents. This is considered the standard-of-care treatment and has been shown to increase overall survival (OS) by roughly 5%.^{2,4} Apart from DT, there have not been any novel FDA-approved agents for untreated LA SCCHN since cetuximab in 2006.^{5,6}

Objective

To characterize the current body of literature regarding progression or recurrence-free survival and OS in patients with non-metastatic LA SCCHN who were initially treated with at least DT.

Methods

A systematic literature search was conducted using PubMed and Google Scholar. Both databases were searched using the terms: ("locally advanced" OR"stage III" OR "stage IVB") AND ("squamous cell carcinoma of the head and neck" AND ("surgery" OR "radiotherapy" OR "radiation therapy" OR "chemotherapy" OR "cetuximab") AND ("event-free survival" OR "disease-free survival" OR "progression-free survival" OR "overall survival"). Both searches were limited to clinical trials and randomized clinical trials published within the past 5 years and the Google Scholars was limited to the first 5 pages. Studies that included DT as part of the treatment, event-free survival (EFS, including progression-free and disease-free survival), and/or overall survival (OS) as outcomes were included. If studies only provided Kaplan-Meier survival curves, median EFS was estimated from the time at which the curve crossed 50%. Studies with patients receiving fewer treatments than DT, studies that only reported hazard ratios, systemic reviews, and meta-analyses were excluded.

Data analysis was done via Microsoft Excel and graphs were coded in R.

Results

- Of the 219 results, 35 studies were included for the analysis.
- The median age of patients was between 41.5 and 72.2 years (range 18-85).
- Median OS was available for 15 studies and ranged between 15 and 91.9 months.

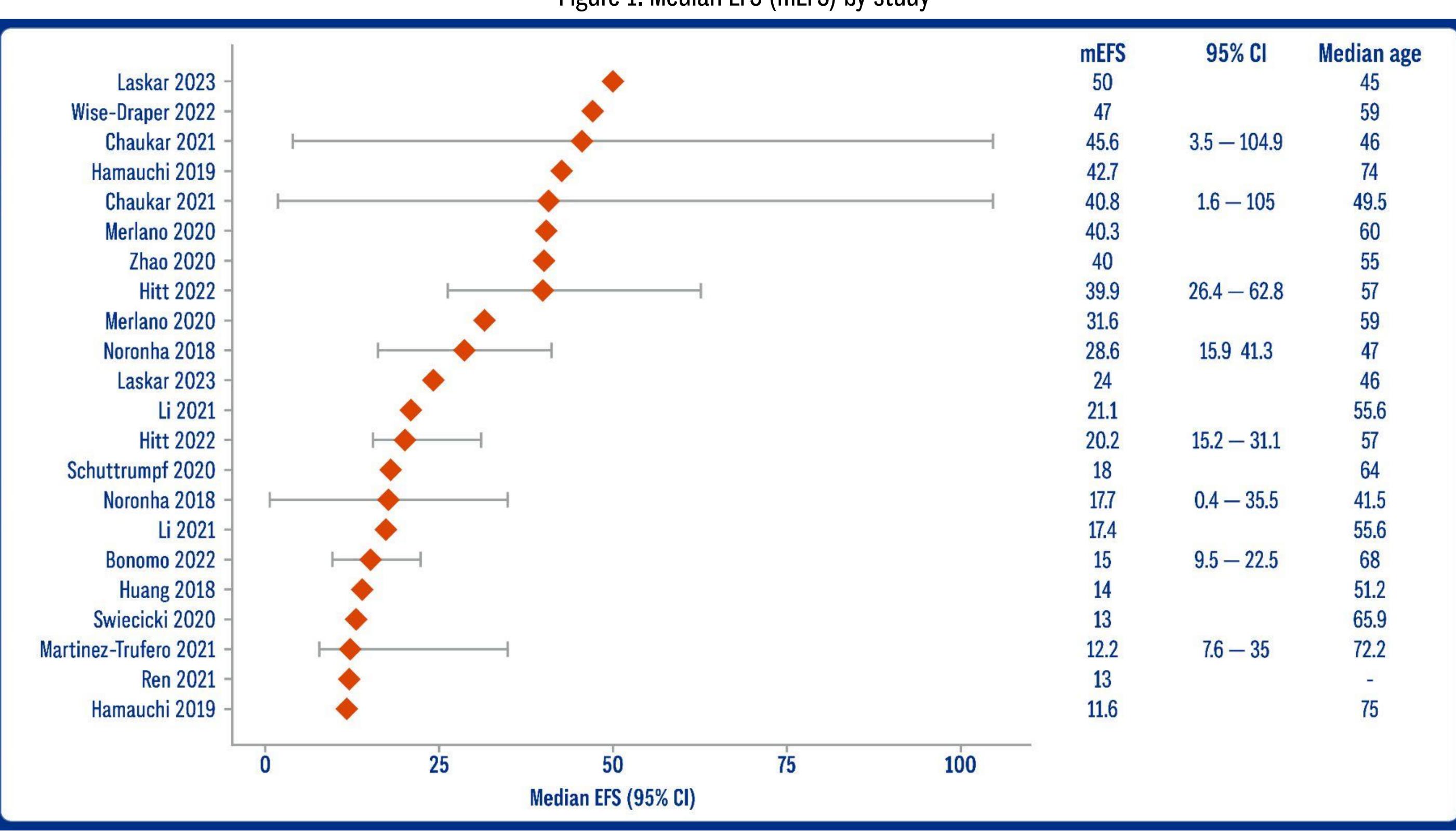
Table 1. Mean 1- and 2-year EFS

	1-year EFS (2 studies)	2-year EFS (5 studies)
% of patients	85.7%	69.3%

Table 2. Studies with non-reached (NR) EFS but a lower 95% CI was available

	Lower 95% CI	Upper 95% CI
Javelin 2021	16.9	NR
Keynote-412	44.7	NR
Lux-2 2017	16.8	NR
Teknos 2019	52.6	NR

Figure 1. Median EFS (mEFS) by study



Twenty-three studies that reported mEFS were included in the graph. Results without 95% CI were from estimates of Kaplan-Meier survival curve.



Genentech A Member of the Roche Group

Limitations

All the studies included had different treatments and study designs. While most studies were prospective, some were retrospective. Many studies had intervention combinations beyond DT, such as pembrolizumab and vorinostat. This analysis was descriptive and did not adjust for differences in patient characteristics.

Conclusions

- We provided an update on the recent body of literature regarding EFS in LA SCCHN.
- Patients with LA SCCHN that received DT experienced progression or recurrence after 11.6-50 months.
- There remains a need for novel treatments that improve clinical outcomes in LA SCCHN.

References

1. Head and neck cancer - statistics. Cancer.Net. https://www.cancer.net/cancer-types/head-and-neckcancer/statistics. Published December 16, 2022. Accessed January 15, 2023. 2. Schüttrumpf, L., Marschner, S., Scheu, K. et al. Definitive chemoradiotherapy in patients with squamous cell cancers of the head and neck results from an unselected cohort of the clinical cooperation group "Personalized Radiotherapy in Head and Neck Cancer". Radiat Oncol 15, 7 (2020). https://doi.org/10.1186/s13014-019-1452-4 3. locca 0, Farcomeni A, Di Rocco A, et al. Locally advanced squamous cell carcinoma of the head and neck: A systematic review and Bayesian network meta-analysis of the currently available treatment options. Oral Oncology. 2018;80:40-51. doi:10.1016/j.oraloncology.2018.03.001 4. Stenson K. Overview of treatment for head and neck cancer. In: Post TW, ed. UpToDate. UpToDate; 2023. Accessed January 17, 2023.

https://www.uptodate.com/contents/overview-of-treatment-for-head-and-neckcancer?search=locally%20advanced%20squamous%20cell%20carcinoma%20of% 20head%20and%20neck&source=search_result&selectedTitle=2~150&usage_type=default&display_rank=2#H18482222 **5.** Brockstein B, Vokes E, and Eisbruch A. Locally advanced squamous cell carcinoma of the head and neck: Approaches combining chemotherapy and radiation therapy. In: Post TW, ed. UpToDate. UpToDate; 2023. Assessed January 17, 2023.

https://www.uptodate.com/contents/locally-advanced-squamous-cell-carcinomaof-the-head-and-neck-approaches-combining-chemotherapy-and-radiationthe rapy?search=locally%20advanced%20squamous%20cell%20carcinoma%20of%20head%20and%20neck&topi

cRef=3380&source=see link#H1537233523 6. Cetuximab. National Cancer Institute. https://www.cancer.gov/about-cancer/treatment/drugs/cetuximab. Accessed January 17, 2023.

Poster presented at Academy of Managed Care Pharmacy Annual Meeting in San Antonio, TX, March 21-24, 2023.